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The purpose of this study was twofold: (1) to evaluate the Self Enhancing Education (SEE) Project, and (2) to formulate and evaluate group learning activities for behaviorally handicapped students. SEE, developed in the schools of Cupertino, California, and implemented under a Title III grant, provided training in communication processes simultaneously to teachers, pupils, and parents. The aim was to change traditional communication patterns to increase pupil participation and freedom in the classroom. The study was implemented within a cooperative model encouraging maximum participation of school and SEE personnel. Evaluation indicated desired changes in teacher attitudes and in verbal, teacher and pupil classroom behavior. Differences between SEE and control pupils on other measures were few and inconclusive. Small group processes produced positive changes in teacher perception of pupil behavior and in psychomotor abilities related to success in school for behaviorally handicapped pupils in grades one through three, but no changes in pupils grades four through six. (Author/KP)

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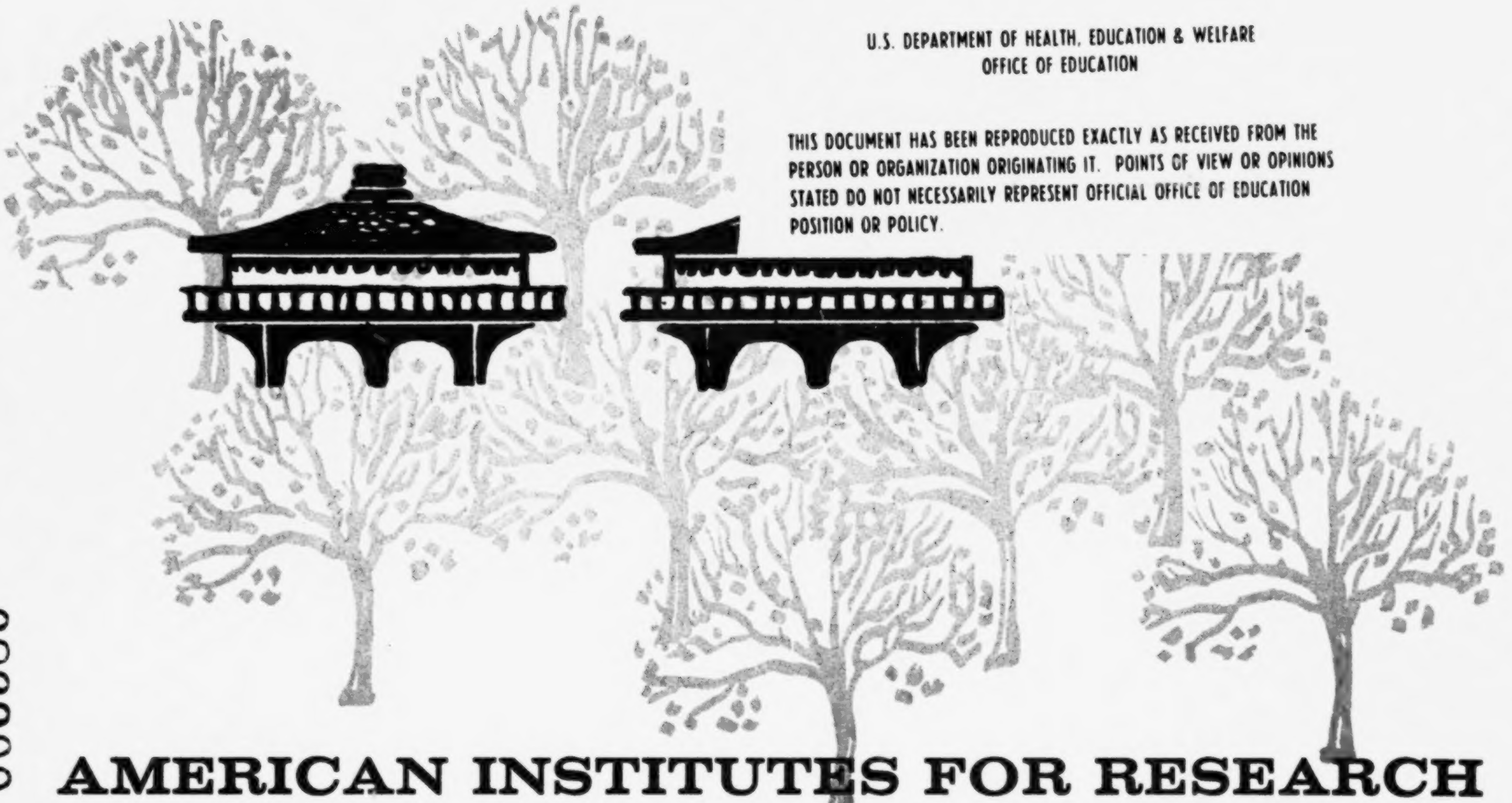

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Center for Research and Evaluation
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Self Enhancing Education

Grant No. OEG 4-6 0016390910

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W. Ray Rhine

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ABSTRACT

The purpose of this study was twofold: (1) to evaluate the Self Enhancing Education (SEE) project and (2) to formulate and evaluate group learning activities for behaviorally handicapped students. SEE, an innovative approach to education and school - community relations, developed over the past ten years in the schools of Cupertino, California. Implemented under a Title III grant, the SEE program provided training in communication processes to teachers, pupils, and parents simultaneously. The aim was to change traditional communication patterns in the direction of increasing pupil participation and freedom in the classroom.

The study was implemented within a cooperative model which encouraged the maximum participation of school and SEE personnel in the formulation and execution of the project. Members of the SEE staff were closely involved in the decision-making process throughout the year, and they were instrumental in clarifying the major variables and objectives of SEE, selection of evaluation instruments and procedures, and in establishing and maintaining contact with the comparison schools.

The evaluation project directly involved students and teachers from 36 classrooms in five elementary schools. Pre- and post-tests were administered in the fall and spring, respectively. The SEE staff expected change in teacher and pupil classroom verbal behavior and enhanced pupil growth in areas of self-concept, attitudes toward school attendance, and academic aptitude and achievement. The results indicated desired changes in teacher attitudes and in teacher and pupil classroom verbal behavior. Differences between SEE and control pupils on other measures were few and inconclusive. The changes in teacher and pupil verbal behavior may be a

necessary intermediate step toward differences in pupil self-report measures. The small group processes produced positive changes in teacher perception of pupil behavior and in psychomotor abilities related to success in school for behaviorally handicapped pupils in grades 1 - 3. There were virtually no changes in pupil measures in grades 4 - 6.

In some respects, the present study may be considered as a pilot project to establish greater specification of variables and techniques. Although the results of the evaluation were less affirmative than had been hoped for, SEE appears to focus on important dimensions of growth and development in education. The enthusiastic participation by large numbers of parents in the training program has contributed to a more dynamic and cooperative school - community relation. Small group process, a promising method for incorporating the interests, needs, and feelings of behaviorally handicapped students within the school environment, requires further study and evaluation.

Consistent with the Title III emphasis on utilization of evaluation information for improving operations, the present study has assisted in further clarification of program objectives and the scope and sequence of training activities. It is expected that an innovative effort such as SEE will require several developmental phases. In view of the considerable local and national interest in implementing the SEE program, SEE appears to merit further support to explore its potential contribution to education. Additional refinement of SEE through further implementation and evaluation requires the continued cooperative effort of the SEE staff with other professionals qualified to provide necessary research support. Further review of relevant literature and evaluation techniques is recommended.

INTRODUCTION

Self Enhancing Education (SEE) is an attempt to improve the quality of educational environments and school-community relations. The purpose of this study was to evaluate the effectiveness of SEE learning opportunities and human relations training for teachers, pupils, and parents. Developed through extensive experience in the schools during the past ten years, the SEE techniques, processes, and objectives are presented in detail in Self Enhancing Education (Randolph & Howe, 1966). Mrs. Randolph and her co-workers have conducted their innovative work in the Cupertino Union Elementary School District, Cupertino, California, a city adjacent to San Jose and some forty-five miles south of San Francisco.

Patterns of external control in human relations often have characterized traditional modes of teacher-pupil and parent-child interaction. Authoritarian, nonreciprocal behavior has been linked to feelings of self-devaluation, exclusion, anxiety about identity or passivity and hostility (Lippitt, 1963). Also familiar are the external control patterns of assertiveness and dependency; or of power oriented domination and deferential subordination; or of obedience-demanding and rebellion; and various other patterns that come to mind as one thinks about control phenomena in human relations. The condition of being ignored or rejected or of having lower power status is reflected, the data show regularly, in negative self-evaluation and in effects on motivation toward task achievements, such as learning achievement (Cartwright & Biber, 1965; Lippitt, 1960).

The SEE program seeks to change traditional communication patterns so that the influence of peers, teachers, and parents can become sources of integrated, self-controlling democratic identities. SEE is an attempt to develop a collaborative model of shared power, shared decision making, shared evaluation. In effect, it is an attempt to enhance the child's ability to participate in the effective control and evaluation of the goals and success of his own activities. The rationale of the SEE program is developed more completely in the SEE publications.

The SEE program was designed to have implications for both academic learning and the emotional growth and development of the child. If the classroom environment is supportive and the child is able to maintain his emotional equilibrium, learning is enhanced. If the classroom is hostile or threatening and the emotional state of the child is in jeopardy, academic learning and emotional development will suffer. Conversely, if the child is successful in mastering successive stages in the learning process, his self-confidence is bolstered, his prospects of future success are enhanced, and his emotional balance is sustained. Lack of mastery, on the other hand, undermines confidence and hampers emotional development (Lippitt and Gold, 1959).

The development, demonstration, and evaluation of the SEE program was underwritten in 1966 by a major grant to the Cupertino Union School District under Title III of the Elementary and Secondary Education Act of 1965. During the past two years SEE has published a monthly Newsletter and has conducted numerous training seminars for teachers and administrators in several states including California, Oregon, Washington, Ohio, New York, Kentucky, and Nebraska. Several hundred visitors to the SEE offices in Cupertino have observed the program in the demonstration school. The SEE program in the Hillview school in Menlo Park was coordinated with, but independent of, the Meyerholz demonstration project.

SEE - AIR Services Agreement. At the end of the first year's operation under the Title III grant, SEE contracted a Services Agreement with AIR to begin on July 1, 1967. According to the Services Agreement, the major responsibilities of AIR were the following: (1) provide personnel and services for planning, conducting, interpreting, and reporting pertinent to the evaluation of the total Self-Enhancing Education project in Hillview (Menlo Park) and Meyerholz (Cupertino) schools during the school year 1967-68; (2) activation, demonstration, and assessment of adapted teaching-learning opportunities for behaviorally or otherwise handicapped children (and their parents) in Meyerholz school. In accomplishing both of these objectives, it was understood that the services provided by AIR would be consistent with SEE objectives and processes.

When the original Services Agreement was contracted, Dr. Fred Zehrer was designated as the Principal Investigator. Due to Dr. Zehrer's untimely death, the project did not begin as scheduled. Under the terms of a revised Agreement, Dr. W. Ray Rhine was appointed as Principal Investigator and the project was re-scheduled to begin on August 15, 1967, and to terminate on August 15, 1968. Other AIR staff members appointed to the project were Dr. Ellie Norris, Research Scientist, and Mrs. Carolyn Thompson, Senior Research Assistant. Biographical sketches of the three AIR personnel are presented in Appendix A.

Approach to the evaluation of SEE. The Services Agreement provided a general outline of procedures and goals, but much additional planning was required before the project could become operational. Several significant issues had to be confronted in the choice of a model for implementing the Services Agreement. Only two weeks of planning time remained before the beginning of the school year, but other potential sources of difficulty were the following:

1. The literature contained many reports of difficulties in conducting longitudinal research in the school setting.

2. The lack of a reduced work schedule for teachers to provide some relief from their regular teaching schedules.

3. The difficulties in conducting evaluation and an on-going service program simultaneously.

4. The climate of public concern about psychological testing and invasion of privacy.

5. The unresolved conceptual problems in designing and conducting evaluation of on-going, innovative programs (as in Guba, 1965; Stubblefield, 1967; Zimeles, 1968).

The two models considered for implementing the Services Agreement were the following: (1) the AIR staff could design the various components of the Services Agreement and present these to the SEE staff and school personnel for their consideration; (2) each component of the Services Agreement could be formulated in joint SEE - AIR discussions. The first approach appeared to require less time, but the second offered the following persuasive advantages:

1. Joint discussions would give the SEE staff and school personnel a maximum opportunity to participate in and understand each phase of the formulation of the program. A pre-digested set of plans were less likely to be adapted to the particular school environment. Open discussions were more likely to produce a plan which would develop in a truly organic manner from the resources of the combined SEE, school, and AIR personnel. The final product would then represent a consensus which incorporated an analysis of the various stakeholder interests.

2. Joint discussions were in line with the suggestion of several educational researchers that a cadre of research personnel be created in the schools. Several of the SEE and school staff had previous course work in experimental design, statistics, and practicum experiences which were highly relevant to the role of "change agents" in the school. Involvement in the formulation of the research would demonstrate how school personnel could utilize their resources and acquire new skills in the change process.

3. The strategy of developing and implementing ideas which originated and evolved within the school setting seemed to be the best way to initiate a process which could be carried on by school personnel after the Services Agreement had been concluded. This approach was also consistent with community psychology change principles which advocate the training of people within the system, rather than exclusive reliance on the service function of an outside person or agency.

4. The maximum involvement of school and SEE personnel required a change from the clinical, psychiatric concern for diagnosis, treatment, and excision of pathology to the educational concern for the development of positive coping behaviors related to existing strengths. This re-definition of the project as an educational rather than a psychiatric enterprise represented a carefully considered SEE - AIR interpretation of the original Services Agreement.

The necessary planning decisions were accomplished during six weeks of intensive, daily SEE - AIR discussions. The major focus of these discussions was on the implementation of the evaluation of the SEE program, but some time was also devoted to designing the program for behaviorally handicapped children. Within this framework, we worked toward the following accomplishments:

1. Established a SEE - AIR consensus concerning the major variables and objectives of the SEE program. The Principal Investigator was conversant with the general experimental and theoretical antecedents of the SEE program, but the discussions and the reading of SEE literature (including Self Enhancing Education, written by Mrs. Norma Randolph, Project Director, and Mr. William Howe, Associate Project Director, as well as monthly progress reports of previous SEE activities) were helpful in providing the AIR staff with a thorough knowledge of the SEE program. In this manner, it was possible to establish a firm consensus between SEE personnel and the AIR staff concerning the general developmental history of the SEE program and current concepts, techniques, process and objectives. Extended to all future program developments, the model of cooperative consultation, and participation seemed likely to optimize the efficiency and benefits of the SEE - AIR Services Agreement in a manner consistent with the SEE program and the needs of the Meyerholz school. Within this cooperative framework, problems were resolved in a manner which contributed to the effectiveness of the general program.

2. Selected evaluation instruments and procedures. It was agreed that the package of instruments should meet the following criteria: (a) they must be clearly related to the major variables of the SEE project; (b) they must provide information to evaluate the SEE program along those dimensions indicated by the enumeration of key questions in the Services Agreement; and (c) they must be appropriate for use by other school districts interested in activating the SEE processes in their schools.

   Copies of the recommended instruments were submitted to SEE personnel for their inspection. Each of the instruments and its relationship to the SEE processes were discussed in detail, and the SEE staff contributed several perceptive questions and comments toward determining the final selection. Thus, while the final selection of the evaluation instruments and procedures was the responsibility of the AIR staff, the maximum participation by SEE personnel was encouraged in reaching a consensus concerning the package of instruments in the evaluation.

3. Obtained cooperation of control schools and made decisions on testing schedules and sampling procedures. We received excellent cooperation throughout the year from the control schools. Academic aptitude and achievement testing was coordinated with the schools in a manner which made unnecessary the administration of tests at all grade levels. Academic aptitude and achievement test data was exchanged between the project and the cooperating schools. Coordinating the testing programs kept at a minimum the intrusion of the project into the operations of the control schools. The scope of the total evaluation was planned to meet the objectives of the Services Agreement within the limitations of the available personnel.

4. Agreed on a plan to coordinate the SEE - AIR staff. We were fortunate in having two key members of the SEE staff assigned 75% of their time to the implementation of the Services Agreement. In addition, one member of the school counseling staff worked in the project as time permitted. The joint discussions permitted the staff to develop a common language and conceptual framework for the completion of the project. An attempt was made to capitalize on the individual interests and skills of the staff members in the implementation of the various phases of the project. Weekly work schedules were planned by each member of the SEE - AIR staff. One important result of the regularly scheduled discussions was to provide information which allayed the concern of the SEE staff concerning the nature and consequences of evaluation. The principal or his representative from the school staff attended the regular planning and evaluation sessions.

5. Developed an increasingly positive attitude toward evaluation. It became evident that the AIR effort was consistent with the SEE program and that evaluation was assisting in the progressively clearer definition of the project variables and goals. The establishment of the clear relationship between evaluation and the improvement of the program effectiveness is one of the most positive aspects of this project. The SEE - AIR consensus is that the feedback loop between evaluation and programming requires much future study and refinement.

Experimental and control schools. The evaluation of the SEE program involved five elementary schools in the following three school districts: Cupertino Union School District, Menlo Park School District, and a control district located near Cupertino. All of these communities are located near

San Jose and San Francisco. The five elementary schools had a total population of approximately 90 teachers and over 3000 students. Training programs were conducted in two of the schools and three of the schools provided control populations.

> Experimental schools. The SEE program was implemented in two elementary schools--Meyerholz in Cupertino and Hillview in Menlo Park. Meyerholz has a student enrollment of approximately 700 children in 19 classes. Hillview, a K through 8 school, has a student population of approximately 282 children in the 13 classes in grades 1-6. Meyerholz and Hillview serve populations in the lower to middle and middle to upper socioeconomic ranges, respectively. Because the two schools serve populations differing markedly in socioeconomic status, separate control populations were required to serve in the evaluation of the SEE effects.
>
> Control schools. The control schools for Meyerholz and Hillview were selected on the basis of their comparability in terms of number of students, number and size of classrooms, and the socioeconomic status of the neighborhoods served. For Meyerholz, a combined sample was drawn from two schools in an adjacent district. The two schools were approximately equal in size with a combined population of 1400 students and 40 teachers. The decision to draw a combined sample from two schools was made after the administration and principals had expressed some reservations about accepting the role of a control population. This concern stemmed from the manner in which the results of a previous research project were made public to the detriment of certain participating individuals. The combined sample was employed to insure the anonymity of the staff of the control schools. In addition, the results of the academic aptitude and achievement testing were returned to the control schools to supplement their own testing program.

PART I: TEACHERS

Method

Introduction. In the SEE program at Meyerholz, teachers met for two hours each week to receive instruction in implementing the SEE processes in the classroom. These training sessions included instruction in the SEE principles and techniques, presentation of videotaping and critiques of individual teacher's problem-solving techniques, small group discussion of topics of interest to teachers at each grade level, and visiting lectures on relevant topics such as "The Taba method." The general purpose of these training sessions was to enable teachers to critically evaluate the traditional teacher-pupil communication patterns and to consider ways to improve communication patterns in the classroom. The theoretical basis for the SEE program was highly consistent with the writings of Carl Rogers, Virginia Satir, and Earl Kelley. Several of the staff had participated in sensitivity training sessions conducted by the National Training Laboratories and by Carl Rogers and other members of the Western Behavioral Science Institute staff at La Jolla, California. Members of the AIR staff provided consultation to the inservice training program as time permitted.

The goal of the inservice training of teachers was to change patterns of verbal communication in the direction of increasing student freedom and decreasing teacher control of the learning process. Teachers were assisted in understanding the role of feelings in learning and in clear (congruent) communication between members of the school faculty, between teachers and pupils, and between pupils themselves. The aim was to increase the amount of open, reciprocal relations in the school and to increase the participation and social power of the learner in the classroom. Teachers received instruction in functioning as a resource in the learning process rather than in the traditional role of admonishing and commanding. It was expected that the inservice training would increase the scope and clarity of communication in the classroom.

The Hillview teachers participated in a training program supervised by Mr. George Wildberger. This program was coordinated with, but independent of, the SEE program in Meyerholz. Since the Hillview group worked independently of the SEE - AIR training program, no further description of the activities of the program is possible.

The control teachers were not informed of the nature of the SEE program. They participated in the regularly planned activities of their district and school.

Sample selection. The 30 teachers were randomly selected from four elementary schools and a total population of 76 teachers according to the following procedure: (1) 12 teachers, two each from grades 1-6, from the SEE program in the Meyerholz school; (2) six teachers, one each from grades 1-6, from the Hillview school in Menlo Park; (3) 12 control teachers, one each from grades 1-6 in each of two control schools adjacent to Cupertino. The sampling plan is shown in Table 1.

Teacher measures. Both behavioral and attitude change scores were utilized as measures of teacher characteristics.

A. Teacher verbal communication behavior was assessed by the Flanders Interaction Analysis Technique, one of the most widely used methods for quantifying differences in teacher and student classroom behavior. The Flanders technique is particularly appropriate for the evaluation of the effects of the SEE program on teachers and students, since the

TABLE 1

Sampling Plan for Teachers

	Grade	Meyerholz	Control	Hillview	
	1	2	2	1	
	2	2	2	1	
	3	2	2	1	
	4	2	2	1	
	5	2	2	1	
	6	2	2	1	
Total		12	12	6	(30)

techniques and objectives of the SEE program are highly consistent with behaviors which the Flanders Scale purports to measure. (See Appendix B - 1)

1. Description. Interaction analysis is an observation procedure designed to systematically record and analyze the process of teacher influence patterns in the process of instruction. The purpose is to study teacher-pupil interaction in terms of the teacher's control of the students' freedom of action. The interest is to distinguish those acts of the teacher that increase the students' freedom of action and to keep a record of both the teacher and student behavior.

   Interaction analysis is concerned primarily with verbal behavior. During an approximately 20 minute observation period, the observer sits in the classroom in the best position to hear and see the teacher and the students. At the end of each three-second interval, the observer decides which one of ten categories best represents the communication events just completed. He writes this category number down while simultaneously assessing communication in the next period, and continues at a rate of 20 to 25 observations per minute, keeping his tempo as steady as possible. His notes are merely a sequence of numbers written in a column, top to bottom, so that the original sequence of events is preserved.

   Of the ten Flanders categories, seven are assigned to teacher talk, two are assigned to student talk, and one is assigned to short periods of silence and talk that is confusing or noisy. The seven categories assigned to teacher talk are divided into indirect and direct influence. Indirect influence encourages student participation and thereby increases his freedom of action. Direct influence increases the active control of the teacher and often stimulates conformity and compliance. Direct influence tends to increase teacher participation and establish restraints to student behavior.

   Further description of the Flanders Interaction Scale may be obtained by reading the author's material: (Interaction Analysis in the Classroom, A Manual for Observers, by Ned Flanders, Univ. of Michigan, January, 1964).

2. Administration of Flanders Scale to experimental and control teacher. The instrument was administered to the 12 Meyerholz experimental classrooms on three occasions (October, January, and April). The baseline measure for the 12 control classrooms was obtained in April, 1968.

The Flanders Scale was not administered in the Menlo Park schools. The administration occurred at a time when the teacher planned for verbal interaction to occur in the classroom. Often, a social studies period was chosen.

3. Scoring. The Interaction Scale is scored for ten dimensions of teacher-student interaction behavior. In this study the scoring system was modified to further divide responses in categories 4, 8, and 9 into (1) affective and (2) cognitive. The Flanders categories may be combined to provide additional measures. The ratio of direct to indirect teacher influence (I/D ratio) is obtained by dividing the sum of categories 5, 6, and 7 (direct communication) into the sum of categories 1, 2, 3, and 4 (indirect communication).

   Two staff members were trained in the use of the technique over a period of approximately three days in the fall. A reliability coefficient of .80 was achieved on two trials on the third day, and no further training was conducted.

Hypotheses. As compared to the control teachers, it was expected that the SEE teachers would:

a. not differ on the baseline measure, which was obtained for experimental and control teachers in October and April, respectively.

b. be more likely to (1) accept feelings, (2) accept or use ideas of pupils in the spring.

c. be less likely to (1) lecture, (2) give directions, (3) criticize or justify authority in the spring.

d. have higher I/D ratios in the spring.

B. Teacher preference for behavior styles in responding to typical classroom situations was assessed by the Opinion Inventory for Teachers and Administrators (Valenti, 1964).

1. Description. The Opinion Inventory consists of statements of 138 classroom situations which a teacher might face, together with alternatives for handling them. Respondents must choose one of two alternatives presented for each situation. For example:

   "In planning lessons and units the more important thing to remember is that:

   a. a teacher who efficiently organizes the facts and information she has at hand will get a maximum of knowledge across with a minimum of distraction and aimless wandering.

b. the students should have a voice in the planning--both in selecting the activities they are interested in and in the evaluation."

2. Administration. This instrument was administered to the Meyerholz teachers in May, 1967, and in May, 1968. Twelve teachers from the control schools and five teachers from Hillview completed the Opinion Inventory in May, 1968.

3. Scoring. Four scores calculated for each respondent represent his relative preference for four styles of teaching behavior. These styles are:

   1. The Impersonal Style represents the teacher who sees authority and expert opinion at the top of the hierarchy of values with himself as the representative of that authority and all pupils of equal consideration below. He receives a great feeling of security in depending upon expert opinion and in following "the rules and regulations" of his position rather closely. He is inclined to be loyal, conforming. The tone of his interaction is formal, marked by frequent one-way communications and infrequent two-way communications.

   2. The Personal Style represents the teacher who is a rugged individualist, technically proficient, a good disciplinarian and a hard worker. He receives a great deal of satisfaction from his own creative work and relies mainly on his own ability and knowledge. The tone of his interaction is less rigid than that of the Impersonal Style teacher. He maintains infrequent two-way contacts, but his interaction is more personal.

   3. The Counseling or Developmental Style adds more to the qualities of the teacher. The teacher of this type is interested in social contact, in developing and guiding his pupils. He does this mainly through the use of individual incentives--praise, reward, friendliness. He is very much concerned about the background of each of his pupils so he may "guide" them. For this reason he is likely to use tests and measurements to a great extent. The tone of his interactions is much less formal than the Impersonal and Personal Styles although his methods of counseling are mostly "directive." He shows somewhat of a two-way interaction. Classroom discipline in this case comes through his ability to control and manipulate students to the desired ends.

   4. Integrating and Coordinating Style. This style of behavior represents the other extreme of the continuum--the informal or group approach. A teacher with this

> style tries to develop group standards, helps the group to express its own opinions. He conceives of his participation with the group as being that of a "catalytic" agent rather than as an authority figure. The tone of his interaction is very informal with frequent, unstructured (and nondirective) two-way communications.

Hypotheses. As compared to the control teachers, it was expected that the SEE teachers would express less mean preference for teaching behavior styles 1, 2 and 3 and greater mean preference for teaching style 4.

Results

Part I: Cupertino Project and Control Teachers

The SEE training program was designed to produce change in teacher classroom verbal communication behavior and stated preference for teaching styles. As compared with the control teachers, the SEE teachers were expected to have more sensitivity to the feeling component of pupil behavior, more ability to help pupils express and expand their own ideas, a lesser incidence of authoritarian verbal behavior, and a preference for two-way communication and integrative teaching style.

A. Teacher verbal communication behavior in the classroom was assessed by the Flanders Interaction Scale. The second and third observations in the SEE classrooms were conducted in February and April, respectively. Since the data from these two sets of observations were quite similar, they were combined to provide one sample of SEE teacher classroom verbal behavior in the spring, after several months of participation in the SEE training program. The frequency and percent of occurrence of each type of behavior, for the SEE teachers in the fall and spring and for the control teachers in the spring, are shown in Table 2. The status of the specific hypotheses concerning the effects of teacher participation in the SEE program is as follows:

1. Baseline I/D ratio comparison. I/D ratios were formed for each teacher by dividing the frequency of indirect verbal communication behavior (Flanders categories 1, 2, 3, and 4) by the frequency of direct verbal communication behavior (Flanders categories 5, 6, and 7). Comparison of the baseline mean I/D ratios for SEE and control teachers, shown in Table 3, shows no difference between the two groups. As expected, prior to participation in the SEE training program, the SEE teachers did not differ from the control teachers in classroom verbal communication behavior assessed by the I/D ratio of the Flanders Scale.

TABLE 2

Frequency and Percent of Teacher Interaction Behavior

Flanders Category	SEE Experimental				Control	
	Fall		Spring			
	f	%	f	%	f	%
Teacher Talk						
1. Accepts feelings	5	-	73	3	0	-
2. Praises or encourages	47	1	133	6	134	6
3. Accepts or uses ideas of pupil	445	18	738	30	295	13
4.1 Asks questions about feelings	19	1	80	3	0	-
4.2 Factual questions	707	30	731	30	793	33
5. Lectures	785	32	492	20	834	36
6. Gives directions	187	8	95	4	193	8
7. Criticizes	248	10	109	4	94	4
Total	2443	(100)	2451	(100)	2343	(100)

TABLE 3

Mean Flanders I/D Ratios[a]

Fall	SEE Experimental	Control[b]
$\bar{x}$	1.16	1.11
n	12	12

Spring	SEE Experimental	Control[c]
$\bar{x}$	3.00	1.11
n	12	12

[a] Comparison of spring and fall ratios for the experimental group shows correlated $t = 3.96$, d.f. = 11, $p < .05$.

[b] SEE vs. Control $t = .170$, d.f. = 22, $p > .05$.

[c] SEE vs. Control $t = 4.31$, d.f. = 22, $p < .05$.

2. Accepts feeling and ideas of pupils. As shown in Table 2, the frequency of acceptance of pupil feelings and the acceptance and use of pupil ideas increased significantly in the classroom verbal behavior of the SEE teachers during the training program. In the spring administration of the Flanders, the SEE teachers emitted 73 verbal statements on the accepts feeling dimension, as compared to none for the control teachers. The SEE teachers accepted or used a pupil idea on 738 occasions, as compared to 295 occasions for the control teachers. These results indicate that the SEE training program produced significant changes in teacher classroom verbal behavior on the indirect dimensions.

3. Lecturing, giving directions, and criticism. As shown in Table 2, classroom verbal behavior on all three of these dimensions decreased for the SEE teachers. The comparison of the spring scores for SEE and control teachers is decidedly in favor of the SEE teachers, with the exception of the scores on the criticism dimension where there was virtually no difference. These results provide generally strong support for the expectation that the SEE training program would significantly decrease those direct teacher behaviors which tend to restrict the freedom of classroom communication.

4. Spring I/D ratio comparison. As previously noted, the SEE and control teachers did not differ on the mean comparison of their baseline I/D ratios. A comparison of the mean spring I/D ratios, shown in Table 3, reveals that the SEE teachers were significantly higher than the control teachers. This finding supports the general thesis concerning the effectiveness of the SEE training program in changing teacher verbal behavior in the direction of increasing student freedom of action in the classroom.

B. Teachers' preference for behavior styles in responding to typical classroom situations was assessed by the Valenti Opinion Inventory, an instrument which yields scores on each of four styles: (1) Impersonal; (2) Personal; (3) Counseling or Developmental; and (4) Integrating and Coordinating. As compared to the control teachers, it was expected that the SEE teachers would express less mean preference for teaching behavior styles 1, 2 and 3 and greater mean preference for teaching style 4.

Twelve of the SEE teachers completed the Valenti Opinion Inventory in May, 1967. The Inventory was administered to all 19 of the

Meyerholz teachers and to 12 control teachers in the spring. These means are shown in Table 4. The possible range of scores on any one style is from 0-60.

Impersonal, Personal, and Counseling (Developmental) styles. The order of preference for these three teaching styles is the same for both SEE and control teachers. Generally, the SEE teachers express lower mean preference for one-way communication in the classroom, but the SEE teachers expressed a significantly lower mean preference ($p < .01$) for only the Personal style.

Integration (Coordinating) teaching behavior style. As expected, the SEE teachers expressed a significantly higher mean preference ($p < .01$) for the Integrating (Coordinating) teaching behavior style. These results are in line with the Flanders results indicating more indirect teaching behaviors among the SEE teachers. Taken together, the results of the two measures of teacher behavior and attitudes (Flanders and Valenti) indicate that the SEE teacher training program has effectively produced teacher behaviors and attitudes which support the SEE goals of increased pupil participation and self-direction in learning.

Comparison of mean preference scores for the 12 "old" and 7 "new" Meyerholz teachers. It may be concluded that length of participation in the SEE program (i.e., one or two years) had no effect on the mean preference scores, since there was virtually no difference on the mean scores for the "old" and "new" teachers. Unfortunately, the Valenti Inventory was not administered to the "new" teachers last fall, and no firm conclusions can be drawn concerning their growth and development during the past year. It seems reasonable, however, to suggest that the "new" teachers would probably have resembled the control teachers in their mean preference profile across the four dimensions prior to their participation in the SEE program.

Another interesting conclusion from the data is that the 12 "old" teachers showed virtually no change in their mean preference scores as a result of the second year of participation in the SEE program. This finding suggests that teachers reach a close congruity with the SEE principles after one year of instruction. It is possible that the Valenti Inventory scores of the SEE teachers represent a "SEE profile" on this instrument and that no further changes should be expected after one year of participation. On the other hand, the stability in the mean preference scores for the 12 "old" SEE teachers may suggest that there is a ceiling effect attributed to the nature of the measuring instrument. It is possible that another instrument would be more appropriate for measurement of change, after the first year of participation.

TABLE 4

Teacher Opinions - Mean Scores[a]

	SEE Experimental		Control
	Spring, 1967 (n=12)	Spring, 1968 (n=19)	(n=12)
A. Impersonal	19.75	20.42	20.83
B. Personal	25.58	26.68	31.83[b]
C. Counseling	38.58	39.37	40.75
D. Integrating	51.58	50.84	43.58[c]

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[a] Possible range = 0-60

[b] Comparing between spring (SEE 1967) and control teachers, t = 3.215, d.f. = 29, $p < .01$.

[c] Comparing spring (SEE 1968) and control teachers, t = 2.832, d.f. = 29, $p < .01$.

Menlo Park Teachers. Mean Valenti scores for the five Hillview teachers were 17.0, 23.8, 50.6, and 55.6 for the Impersonal, Personal, Counseling, and Integrating styles, respectively. The Valenti was not administered to the control teachers in Menlo Park, but the Hillview scores may be compared with the scores in Table 4. The Hillview teachers expressed significantly less preference ($p < .01$) for the Personal style and significantly greater preference ($p < .01$) for the Counseling and Integrating styles, as compared to the control teachers. The mean scores for the Hillview teachers generally resembled the pattern of scores for the Meyerholz teachers, excepting that the Hillview teachers expressed a significantly greater mean preference ($p < .01$) for the Counseling style and a somewhat higher preference for the Integrating style. The pattern of scores for the Hillview teachers is generally consistent with the SEE emphasis on two-way communication in the classroom, but further interpretation of the results would require observation of teacher behavior in the classroom.

Summary. It is interesting to note that at the beginning of the year the SEE teachers expressed a preference for two-way communication in the classroom, but the observed communication behavior of SEE and control teachers did not differ. These results indicate that a difference in responses on an opinion measure may not be accompanied by a difference in actual behavior in the classroom. SEE teachers differed from the control teachers on both opinion and behavior measures at the close of the second year. These results suggest that the SEE training program became more effective in inducing behavior changes along the dimensions of the Flanders Interaction Scale during the second year.

Since the comparison of SEE and control teachers was based on a limited number of behavior observations, the results should be interpreted with caution. The number of observations was limited for two reasons. First, the scope of the evaluation imposed limitations on staff time available for this area of measurement. The scheduling, administration, and scoring of the Flanders for 24 teachers required approximately two weeks of work for one staff member. Second, a few teachers were reticent to participate in the administration of the Flanders. None of the teachers rejected participation, but there was some uneasiness concerning the possible uses of the information of the evaluation. Evaluation of teacher behavior through direct observation is a sensitive issue, and it was decided that the evaluation should not be jeopardized by insisting on additional observation of teachers.

Most of the teachers maintained a high level of interest and cooperation throughout the project. Incorporation of the results of the Flanders' administration as a part of the training program facilitated acceptance of the objservation procedure among the SEE teachers, but it was not possible to discuss the results with the control teachers until the evaluation was concluded. Since we could communicate very little information concerning the Flanders' Scale to the control teachers, observation of their classroom verbal behavior was conducted at the conclusion of the evaluation. Knowledge of certain concepts of the SEE program may have accounted for the comparatively high Flanders' scores for some of the control teachers. There is a need for much additional information concerning the teacher characteristics associated with the acquisition of SEE behaviors.

PART II: PUPILS

Method

Introduction. The SEE program is an attempt to change the scope and content of pupil-teacher communication. The preferred direction of change is toward making the pupil more of a participant in the development and functioning of the classroom as a group structure. As a participant, the pupil is more likely to understand the following group processes: (1) transformation of a collection of people into a group structure appropriate to the capabilities and needs of the members; (2) group goal setting, establishment of standards for behavior performance, and discipline; and (3) development and maintenance of open communication systems which accommodate the needs of all persons in the group.

The emphasis on participation is expected to enhance pupil ability to: (1) recognize himself as a unique resource of feeling and perception; (2) view the group as capable of adapting to emergent needs of the members; (3) appreciate the role of both cognitive and affective processes of himself and others in the formulation and functioning of group structures; (4) pursue the surface statement of a problem to the underlying personal emotional needs that are reflected in behavior; (5) express a broad range of needs and concerns within the group; (6) accept individual differences and needs; (7) appreciate the multiple roles that he may adopt in helping the group to solve problems.

The SEE approach to education is expected to result in less apprehension about school tests, enhanced self-concept, and more positive attitudes toward school work, teachers, and peers. Improvement in learning opportunities should result in a consequent acceleration of growth in academic aptitude and achievement, according to the SEE publications.

In effect, SEE is an attempt to create more effective learning environments which enhance the acquisition of both academic and interpersonal skills.

Sample selection. The classrooms and students participating in this evaluation were randomly selected from five elementary schools and a total student population of approximately 2700. Students were chosen according to the sampling plan shown in Table 5. Equal numbers of boys and girls were selected from each of two classrooms in the Meyerholz school and from one classroom at each grade level in the two control schools. This sampling method provided anonymity for the particular teachers and for the control schools. The sample size is 20 for the first grade and 28 for grades 2, 3, 4, 5, and 6. A similar sampling plan was employed for the two schools in Menlo Park.

Pupil measures. Pre- and post-testing was conducted in the five schools during September 15-October 15, 1967, and April 15-May 15, 1968, respectively. The full range of evaluation instruments included measures of (1) classroom verbal interaction patterns, (2) attitudes toward a variety of significant parameters of the school experience, (3) academic aptitude, and (4) achievement in reading and arithmetic. All measures were administered to the 24 classes in the Meyerholz and control schools.

After several meetings with members of the administrative staff of the Menlo Park schools, it was decided that the climate of parental concern about psychological testing and the general issue of invasion of privacy presented a formidable obstacle to following through with the complete evaluation program. The consensus was that while the complete evaluation program was highly desirable from the standpoint of the administration, tests and observation schedules other than the traditional IQ and achievement tests should be eliminated from the evaluation testing in Menlo Park.

TABLE 5

Sampling Plan for Pupils

Cupertino

Grade	Meyerholz					Control				
	Class 1		Class 2		Total	Class 1		Class 2		Total
	Boy	Girl	Boy	Girl		Boy	Girl	Boy	Girl	
1	5	5	5	5	20	5	5	5	5	20
2	7	7	7	7	28	7	7	7	7	28
3	7	7	7	7	28	7	7	7	7	28
4	7	7	7	7	28	7	7	7	7	28
5	7	7	7	7	28	7	7	7	7	28
6	7	7	7	7	28	7	7	7	7	28
					160					160

Menlo Park

Grade	Hillview			Control		
			Total			Total
	Boy	Girl		Boy	Girl	
1	5	5	10	5	5	10
2	7	7	14	7	7	14
3	7	7	14	7	7	14
4	7	7	14	7	7	14
5	7	7	14	7	7	14
6	7	7	14	7	7	14
			80			80

A. Pupil verbal behavior (Grades 1-6). Categories 8 and 9 of the Flanders Interaction Analysis Technique pertain to student response to teacher communication and student initiation in the teacher-student communication process, respectively. The two categories were further divided into (1) affective and (2) cognitive, depending on whether the pupil's comments pertained to the personal feelings or factual information concerning himself or another person in the classroom. In addition, the student talk/teacher talk ratio was obtained by dividing the sum of the first seven Flanders categories into the sum of categories 8 and 9.

Expected that:

1. Experimental Ss would not differ from control Ss on the baseline measure.
2. Experimental Ss would make more initiating comments.
3. Experimental Ss would make more affective comments.
4. Experimental Ss would have higher student talk/teacher talk ratios in the spring.

B. Pupil attitude questionnaire (Grades 3-6). These instruments were selected during the extensive SEE - AIR discussions early in the project. The instruments were drawn from several sources, including previous research projects at the University of Michigan, Stanford University, and Columbia. Copies of all pupil instruments are shown in Appendix B. The small amount of time available for planning the project prior to implementation did not permit the construction of new instruments. The test items generally pertain to school-related matters. It was decided in joint SEE - AIR planning sessions that intra-family influences which often affect the child's school experience would not be studied in this project. Our decision was supported by school administrators.

For pupils in grades 3, 4, 5, and 6, the questionnaire items required 1- to 1-1/2 hours for administration. All parents were informed of the testing by a letter from the principal. All of the questionnaire instruments were administered by trained personnel from the SEE - AIR staff. Some of the pupil attitude questionnaire measures required grouping of test items or scoring of sentence completion items. Inter-rater reliability ranged between .90 and 1.00 on these measures.

For all tests, excepting "My Teacher," the scoring procedures made a low score positive and a high score negative. It was expected that the effects of the SEE program would be reflected in lower mean scores on the variables. The scoring procedure for "My Teacher" will be discussed with the description of the instrument.

1. Test Anxiety Scale (Grades 3-6). Pupils indicated whether they felt worried, fearful, or generally uncomfortable when confronted with a testing or evaluation situation in the classroom. There are a total of 30 items in the measure.

   Scoring: A "Yes" response is scored as one point; a "No" response is scored as zero. The total score is a quantitative measure of the pupil's feelings of test anxiety.

2. Our Classroom (Grades 3-6). Each pupil rated his class on a list of 13 student behaviors and attitudes. Ten of the behaviors and attitudes contribute to a positive classroom climate; three of the behaviors and attitudes (5, 10, and 13) contribute to a negative classroom climate.

   Scoring: For the ten positive items, a weight of 1 is given for "Always," 2 for "Almost Always," 3 for "Often," 4 for

"Only Sometimes," and 5 for "Never or Almost Never." These values are reversed for the three negative statements with a weight of 5 given to "Always," etc.

The individual items were clustered to yield the following four scores:

a. Perception of Teacher (items 3, 4, 8, 11, and 12)

b. Perception of Peers (items 2, 5, 7, 9, 10, and 13)

c. Perception of Schoolwork (items 1 and 6)

d. Total Classroom Climate (sum of all item scores)

3. Faces Test (Grades 1 and 2). The testing procedure was modified for the very young children in grades 1 and 2. A scale represented by faces has been found useful in studying the attitudes and feelings of very young children toward the school experience. This technique can serve where the response to an item is in terms of degree of emotional response from very positive to very negative. The examiner asks the pupils to put an X under the face that shows how he feels in response to a question. Children in grades 1 and 2 are generally familiar with this method for expressing feelings, since their teachers often employ the method to indicate how they feel about the quality of the child's classroom work.

   In a short warm-up session, faces were drawn on the blackboard. The children were asked to indicate their feelings about such questions as, "How do you feel when you eat ice cream?", "How do you feel about spinach?", "How do you feel when you fall down?", "How do the boys and girls in this class feel about you?", "How do you feel when you have a party?". They indicated their responses by selecting one of the faces (three for first graders and five for second graders) drawn to illustrate different degrees of feeling. The examiner noted that some children preferred one face but others preferred another. She also held a brief discussion about why some pupils marked the unhappy faces and others marked the happy faces.

   In the test session, each child received a 9-page booklet, each page of which showed a row of round faces (three faces for first graders and five faces for second graders) depicting degrees of feeling about their experience in school. They were asked to indicate, by marking the appropriate face in their booklet, how they felt about a number of school-related items. For example, "How did you feel when you thought about coming to school this morning?", "How do the boys and girls in this class feel about you?" The total testing time was approximately 30 minutes. The questions asked, and an example of the faces is given in Appendix B.

Scoring: Values ranging from 1 to 3 for first graders and 1 to 5 for second graders were assigned to the faces, with a value of 1 being assigned to the most favorable response, "Very nice." The scores on the individual items were combined to produce the following variables:

a. Attitude toward the school environment (items 1, 2, 3, 4, and 5).

b. Attitude toward the teacher (items 6 and 7).

c. Attitude toward peers (items 8 and 9).

d. Total Classroom Climate (sum for all items).

4. My Teacher (Grades 3-6). Pupils rated their teachers on a list of nine teacher classroom behaviors as shown on Appendix B. Students indicated whether they would like for the present frequency of a particular behavior to remain the same, increase, or decrease.

Scoring: For all items, a score of 1 is given for "Much more," 2 for "A little more," 3 for "The same," 4 for "A little less," and 5 for "Much less." Items 1, 2, and 5 were not scored. A score other than 3 was accepted as an indication of dissatisfaction. Items scored as 3 were not included in the calculation of a dissatisfaction score for each of the six items. Frequency distributions showing children's responses were tallied separately for each item. The items are grouped into three categories:

a. Need for authority (external direction) - items 3, 5, and 8.

b. Need for self-direction (internal direction) - items 4 and 7.

c. Teacher understanding - item 9.

5. This is the Way I Am (Grades 3-6). Pupils rated themselves on a list of 16 adjectives, a shortened form of a self-concept measure developed by Bledsoe and Garrison (1962). Twelve of the adjectives indicate positive qualities; four indicate negative qualities (lazy, mean, selfish, bashful).

Scoring: Only the 12 positive adjectives were scored. A weight of 3 is given for "Nearly always," 2 for "About half the time," and 1 for "Just now and then." The total score is a quantitative measure of how positively a pupil sees himself (self-concept).

6. Sentence Completion (Grades 4-6). Pupils completed a list of 20 sentence stems. Administration of this measure was

limited to grades 4, 5, and 6, since previous experience indicated that third grade students had difficulty with the task. Only eight of the 20 items were scored, and these eight stems were interspersed among the total items in a manner to minimize the repetition of the same answer or a stereotyped response to similar sentence stems parallel in structure or related to one particular area of content.

Scoring: The eight selected stems were arranged in three clusters relating to particular content areas to be coded and scored quantitatively. The scoring principles and procedures are discussed in detail in Fox, Luszki, & Schmuck (1967). The scoring procedure yielded three dimensions and total adequacy scores:

a. Self-esteem Index (general feeling of pupil adequacy as he compares himself to other students) - items 3, 13, and 18.

b. Impulse Control Index (adequacy of self-management of impulses in stressful situations) - items 5, 14, 15, and 17.

c. Perception of Teacher's Attitudes Toward Me (estimate of the teacher's evaluation of me) - item 8.

d. Total adequacy - sum of eight items.

C. Academic aptitude measures (Grades 1-6). Kuhlman-Anderson: Forms A, B, and CD in grades 1, 2, and 3, respectively. Verbal scale of the Lorge-Thorndike in grades 4, 5, and 6. Administered by classroom teachers in fall and spring as follows:

	Fall	Spring
Grade I	Kuhlman-Anderson, Form A	Kuhlman-Anderson, Form A
Grade II	Kuhlman-Anderson, Form B	Kuhlman-Anderson, Form B
Grade III	Kuhlman-Anderson, Form CD	Kuhlman-Anderson, Form CD
Grade IV	Lorge-Thorndike, Form A	Lorge-Thorndike, Form B
Grade V	Lorge-Thorndike, Form A	Lorge-Thorndike, Form B
Grade VI	Lorge-Thorndike, Form A	Lorge-Thorndike, Form B

D. Academic achievement (Grades 2-6). Stanford Achievement Tests: Paragraph Meaning and Arithmetic Computation. Administered by classroom teachers in fall and spring as follows:

	Fall	Spring
Grade II	Primary I, Form W	Primary II, Form X
Grade III	Primary II, Form W	Primary II, Form X
Grade IV	Intermediate I, Form W	Intermediate I, Form X
Grade V	Intermediate I, Form W	Intermediate II, Form X
Grade VI	Intermediate II, Form W	Intermediate II, Form X

Since the Kuhlman-Anderson, Lorge-Thorndike and Stanford Achievement Tests were employed in the prescribed testing conducted by the state and the participating districts, it was not necessary for AIR to administer tests at those grade levels where testing was already planned. The results of the local district and state testing programs were made available to this project, and the results of the AIR testing program (IQ and achievement) were shared with participating schools.

Results

It was expected that the SEE processes would lead to an atmosphere of open communication in which students expressed their feelings and opinions and shared in the identification and control of their own goals. As compared to the control pupils, SEE pupils were expected to show differences in the quantity and quality of classroom verbal communication behavior, express less anxiety about classroom evaluation of their performance, and describe themselves in more positive terms. It was also expected that SEE pupils would describe the behavior of their teachers and peers and their schoolwork in more positive terms. On the basis of their previous experience, members of the SEE staff also expected improved growth in academic aptitude and achievement.

Most of the pupil scores on questionnaire, aptitude, and achievement measures were subjected to analysis of covariance, a statistical procedure which takes into account differences between groups of students in their fall scores (Walker & Lev, 1953). By making scores equivalent at the beginning, differences in the spring may be attributed to events occurring between the fall and spring testing. Comparisons were made between SEE and control pupils, boys and girls, and grade levels. F - values less than 1.0 are not reported in the tables.

The covariance technique reveals whether statistically significant differences exist between group means. Adjusted mean scores are calculated to obtain a more precise relative comparison of mean scores. These adjusted mean scores take into account the differences between groups in the initial test scores in the fall testing. The interpretation of these adjusted means poses a problem, in that they are not necessarily the same as the actual mean scores for a group, but are rather an indication of the directionality of difference. Because of this problem of interpretation, the adjusted means are not reported. Instead, we discuss the direction of the mean difference on those variables where the covariance procedure indicated a significant mean difference between groups. In a few instances the unadjusted mean scores are reported for descriptive purposes to show what the "real score" for a group is.

A. Pupil Verbal Behavior. Table 6 shows the frequency and percent of student classroom verbal behavior in the four "student talk" categories and a "silence or confusion" category. The Flanders Interaction Analysis Scale was administered once in the fall and twice in the spring to the SEE classrooms and once in the spring to the control classrooms. Since the results of the two spring administrations to the SEE classrooms were quite similar, the mean of the two sessions was taken to provide a single measure of SEE classroom verbal behavior in the spring. Thus, the following comparisons were made: (1) SEE (fall) vs. control (spring); (2) SEE (spring) vs. control (spring); and (3) SEE (fall) vs. SEE (spring).

Factual verbal responses and initiation of factual talk. Comparing the fall SEE results with the control results, the SEE students made fewer factual responses and initiated more factual talk, but a chi square test of the difference ($X^2 = 3.01$, d.f. = 1) failed to reach the 5% level of significance. Comparing the spring SEE results with the control results, the SEE students gave significantly fewer factual responses in reply to the teachers and they initiated significantly more factual talk. A chi square test of these group differences was significant beyond the 1% level ($X^2 = 8.46$, d.f. = 1, $p < .01$).

Student talk/teacher talk ratio. This ratio was formed by dividing the frequency of student talk by the frequency of

TABLE 6

Frequency and Percent of Pupil Interaction Behavior

Flanders Category	SEE Experimental				Control	
	Fall		Spring			
	f	%	f	%	f	%
Student Talk						
8.1 Response about feeling	10	-	31	1	0	-
8.2 Factual response	776	32	476	18	1417	56
9.1 Initiates talk about feelings	3	-	44	2	0	-
9.2 Initiates factual talk	1372	56	1908	70	684	27
10. Silence or confusion	300	12	252	9	420	17
Total	2461	(100)	2711	(100)	2521	(100)

teacher talk. The average ratios are shown in Table 7. A ratio of 1 indicates an equal proportion of student-teacher talk; a ratio less than 1 indicates less student talk; and a ratio greater than 1 indicates more student talk.

The average ratio for the control classrooms is somewhat higher than the ratio for the SEE group in the fall, but the difference was not significant. Again, in the spring, student talk/teacher talk ratio is still higher for the control classrooms. It should be mentioned, however, that two of the control classrooms were student-led throughout the observation period with virtually no teacher-student interaction. When these two teachers were removed from the sample, the mean ratio dropped to .706, significantly lower than the SEE classrooms in the spring ($t = 2.38$, d.f. = 20, $p < .05$).

Affective responses. Table 6 shows that SEE students made more affective comments than control students in the fall, and the SEE students increased this form of classroom verbal behavior in the spring. The control students made no affective comments in either the fall or the spring. The proportion of affective comments made by SEE students is small, comprising approximately 2% of the total student talk. Nevertheless, the presence of this verbal behavior among the SEE students and its absence among the control students appears to be a significant effect of the SEE program.

The expectations for student classroom verbal behavior were generally met, but some of the changes in student verbal behavior were minimal. The results are generally in the expected direction and indicate that the SEE program was effective in altering traditional forms of teacher-pupil interaction.

B. Pupil Attitude Questionnaire

1. Test anxiety (Grades 3-6). Students in the SEE classrooms were expected to express less apprehension about classroom evaluation, as measured by the Test Anxiety Scale (TASC). Analysis of covariance of the TASC scores for SEE and control classrooms is shown in Table 8. There was no difference between SEE and control groups, but there was an interesting interaction between SEE/control school and grade level. Examination of the data indicates that TASC scores become progressively lower (indicating less anxiety) from third to sixth grade for the SEE students, but not for the control students. It may be speculated that the impact of the SEE program along the test anxiety dimension may be greater among the older children.

TABLE 7

Mean Flanders Student Talk/Teacher Talk Ratios

Fall	SEE Experimental	Control[a]
$\bar{x}$	1.011	1.599
n	12	12

Spring	SEE Experimental	Control[b]
$\bar{x}$	1.035	1.599
n	12	12

[a] Compared with the experimental group, t = .88, d.f. = 22, not significant.

[b] Compared with the experimental group, t = .86, d.f. = 22, not significant.

TABLE 8

Covariance Summary for
Test Anxiety Scores, Grades Three - Six

Sources of Variance	d.f.	Mean Squares	F
A. SEE/Control Schools	1	43.07	1.38
B. Grades	3	136.45	4.37**
C. Sex	1	82.17	2.63
A x B	3	136.40	4.37**
A x C	1	21.57	
B x C	3	39.55	1.27
A x B x C	3	43.66	1.40
Error	207	31.24	

**p <.01

2. Classroom atmosphere (Grades 3-6). The 13 items of the Our Classroom measure yielded indices of pupil attitudes toward (1) teachers, (2) peers, (3) schoolwork, and (4) total classroom climate. It was expected that the SEE pupil ratings along the four dimensions would be more positive. The analysis of covariance of SEE and control pre- and post-test scores on the four dimensions are summarized in Table 9. Generally, there were no SEE/control or sex differences across the four dimensions. The mean student response for all groups was in the "Often" to "Almost always" range, indicating a rather high level of satisfaction with the school experience.

   There were significant differences between grade levels on the Teacher, Peer, and Total classroom climate dimensions. The most negative scores across the three dimensions were recorded by the third, sixth, and sixth grades, respectively. The most positive scores across the three dimensions were recorded by the fifth, fourth, and fourth grades, respectively. Taken alone, these results would seem to support the conclusion that fourth graders are more satisfied with their school experience than are sixth graders. However, this conclusion is challenged by the significant SEE/control and grade interaction on the Teacher and Peer dimension, indicating that the pattern of negative and positive scores were different in the two groups. For example, on the Teacher dimension the most negative score was given by sixth grade and the most positive score by fifth grade. Among the control students, the most negative score was given by fifth grade and the most positive score by sixth grade. It seems likely that these differences are due more to differences in individual students and teachers than to grade or program effects.

3. Classroom atmosphere (Grades 1-2). The younger children responded to a series of questions concerning their feelings about school. To indicate his response, the first grader selected one of three faces, one smiling very happily to indicate "very nice," a neutral "so-so" face, and a scowling "not nice at all" face. The second grader chose from a series of five faces ranging from "very nice" to "not nice at all."

   Items were combined to yield four measures of pupil attitudes toward (1) school, (2) peers, (3) teacher, and (4) a total score. The analyses for first and second graders were performed separately, since their responses were given on 3-point and 5-point scales, respectively. The results of the analyses of covariance for these measures are shown in Table 10.

   School. Both first and second graders express quite favorable feelings about school attendance with no SEE/control or sex differences in either grade. In both grades there is a significant SEE/control X sex interaction due to less positive feelings expressed by boys

TABLE 9

Covariance Summary for Classroom Atmosphere Scores, Grades Three - Six

		Teachers		Peers		School		Total	
Sources of Variance	d.f.	Mean Square	F	Mean Square	F	Mean Square	F	Mean Square	F
A. SEE/Control School	1	12.172	1.28	.001		.05		8.52	
B. Grades	3	28.78	3.04*	42.87	3.71*	6.24	2.27	165.48	4.27*
C. Sex	1	11.75	1.24	.28	1.0	4.77	1.74	9.70	
A x B	3	28.87	3.04*	32.18	2.87*	5.11	1.86	33.54	
A x C	1	1.58		39.53	3.420	.49		67.62	1.75
B x C	3	4.736		2.47		1.15		12.60	
A x B x C	3	23.82	2.50	10.94		1.02		59.95	1.55
Error	207	9.51		11.56		2.74		38.74	

* p <.05

** p <.01

TABLE 10

Covariance Summary for Classroom Atmosphere Scores, Grades One and Two

First Graders

		School		Peers		Teachers		Total	
Sources of Variance	d.f.	Mean Square	F	Mean Square	F	Mean Square	F	Mean Square	F
A. SEE/Control Schools	1	2.95	1.45	1.52	2.30	.13		10.93	2.05
B. Sex	1	.18		.05		4.70	5.00*	2.49	
A x B	1	8.32	4.10*	3.71	5.64*	1.49	1.58	34.18	6.41*
Error	35	2.03		.66		.94		5.34	

*p <.05

Second Graders

Sources of Variance	d.f.	Mean Square	F	Mean Square	F	Mean Square	F	Mean Square	F
A. SEE/Control Schools	1	16.24	2.24	9.17	5.00*	3.82	1.33	.72	
B. Sex	1	.75		1.34		.18		1.59	
A x B	1	44.66	6.14*	.07		.95		63.84	2.95
Error	51	7.27		1.84		2.88		21.64	

*p <.05

in the control schools. The responses of girls were quite similar in both the SEE and control schools.

Teachers. Students in both the SEE and control schools express very positive feelings about their teachers. There were no SEE/control differences in either the first or second grade. There was a sex difference in the first grade with boys expressing more liking for their teacher.

Peers. Second graders in the SEE classrooms express significantly less positive feelings toward their peers, as compared to their counterparts in the control classrooms. Among first graders, there were no differences between SEE and control girls, but the control boys were less positive toward their peers than boys in the SEE classrooms.

Total classroom environment score. Since there were only minor differences on the three indices comprising the total score, it is not surprising that there is little difference on the total score. Among first graders, the total score for the SEE boys was more positive than for the control boys, but girls in both SEE and control classrooms did not differ.

4. Feelings about my teacher. Students in grades 3, 4, 5, and 6 rated their teachers along several behavioral dimensions by indicating whether they would like the teacher to continue to behave the same as now or change in the direction of increasing the behavior a "little more" or "much more" or of decreasing the behavior a "little less" or "much less." The number of responses in each of the five rating categories was tallied for each of the six behaviors, using only the spring responses.

   Three of the six teacher behaviors refer to the degree of control the children would like from their teacher. The frequency distribution for the first of these, "Make sure work is done," is shown in Table 11. Examination of the data indicates that SEE boys and girls and control boys and girls are similar in their responses, and a statistical test supports this. While the largest number of children (102) want their teacher to make sure work is done "the same as he does now," sizable numbers also wish he would do this "much more" or a "little more" than he does now. There are also a number of children who wish he would do it "much less" or a "little less."

   The second "authority" behavior is "Make us behave." The number of children in each of the five response categories is shown in Table 11. Again, the pattern or responses is the same for SEE and control children. It is interesting to note the number of children who would like the teacher to make them behave more than he does now. Less surprising is the number who would like less control.

"Make us work hard" is the third item in this "authority" category of teacher behavior. As Table 11 shows, a large number of children (over 40% of them) wish the teacher would not make them work so hard, while an almost equally large group feel he should continue his present behavior. Only a few wish their teacher would make them work harder.

Two other items deal with students' need for self-direction. The first of these, "Ask us to decide about how we will work," is consistent with the SEE goal that children participate in the classroom governing process and exercise self-discipline. The frequency distribution for this item is shown in Table 12. Clearly, both SEE and control children would like to participate more often in decisions about their work, but others would like to participate less.

"Trust us on our own" is a teacher behavior closely related to the SEE goal of fostering children's self-discipline. Table 12 shows that the majority of children would like to be trusted on their own "much more" or a "little more." Only a few would like to be trusted less than they are now, an interesting finding in itself.

Finally, children were asked to indicate whether they would like their teacher to "Show that he understands how we feel" more, less, or the same as he does now. The frequencies in Table 12 make apparent that by far the largest number of children would like more of this behavior from their teacher.

These findings, although failing to show differences between SEE and control schools, are interesting in themselves in that they indicate a clear desire by children for both greater limit-setting and enforcing and more participation in the formulation of classroom activities.

5. Self-concept measure: This Is The Way I Am. Children in grades three to six were asked to decide whether 16 adjectives described the way they are "nearly always," "about half the time," or "just now and then." A score of 1 was given the most positive rating, and a score of 3 to the most negative. The sum of these ratings for 12 of the adjectives which described positive traits--e.g., friendly, honest, happy--is the index of self-concept. The analysis of covariance showed no SEE/control, grade, or sex differences, as Table 13 shows. Generally, the children describe themselves in quite favorable terms.

6. Sentence completion. Children in grades 4, 5, and 6 completed a number of sentence stems. Eight of the sentences were scored to provide indices if (1) student perceptions of teacher attitudes toward them, (2) self-esteem, (3) impulse control, and (4) total adequacy.

TABLE 11

My Teacher Scores, Grades Three - Six

Need for Authority

Make sure work is done

	SEE		Control		
	Boys	Girls	Boys	Girls	Total
Much less	8	6	9	5	28
A little less	7	3	7	3	20
The same	19	25	22	36	102
A little more	8	9	8	5	30
Much more	14	13	10	7	44
Total	56	56	56	56	224

Make us behave

	SEE		Control		
	Boys	Girls	Boys	Girls	Total
Much less	10	11	9	3	33
A little less	6	2	5	11	24
The same	21	21	19	22	83
A little more	9	11	12	15	47
Much more	10	11	11	5	37
Total	56	56	56	56	224

Make us work hard

	SEE		Control		
	Boys	Girls	Boys	Girls	Total
Much less	13	15	17	12	57
A little less	9	10	9	12	40
The same	23	17	24	26	90
A little more	4	10	2	3	19
Much more	7	4	4	3	18
Total	56	56	56	56	224

TABLE 12

My Teacher Scores, Grades Three - Six

Need for Self-Direction

Ask us to decide about how we will work

	SEE		Control		
	Boys	Girls	Boys	Girls	Total
Much less	7	4	4	3	18
A little less	3	6	5	10	24
The same	21	16	17	22	76
A little more	9	13	8	11	41
Much more	16	17	22	10	65
Total	56	56	56	56	224

Trust us on our own

	SEE		Control		
	Boys	Girls	Boys	Girls	Total
Much less	1	2	3	-	6
A little less	2	4	3	5	14
The same	15	12	19	25	71
A little more	8	12	6	11	37
Much more	30	26	25	15	96
Total	56	56	56	56	224

Teacher understands how we feel

	SEE		Control		
	Boys	Girls	Boys	Girls	Total
Much less	6	3	3	3	15
A little less	3	1	1	3	8
The same	13	15	14	17	59
A little more	17	13	11	16	57
Much more	17	24	27	17	85
Total	56	56	56	56	224

TABLE 13

Covariance Summary for The Way I Am Scores, Grades Three - Six

Sources of Variance	d.f.	Mean Squares	F
A. SEE/Control Schools	1	.002	
B. Grades	3	29.03	
C. Sex	1	30.10	2.45
A x B	3	24.26	1.97
A x C	1	.40	
B x C	3	5.93	
A x B x C	3	13.38	1.09
Error	207	12.29	

As shown in Table 14, there were no SEE/control or sex differences on the four indices. Mean scores were positive and above average for both groups on the four indices. The significant teacher attitude interaction F-values indicate that SEE students at higher grade levels perceived teacher attitudes as more favorable (A X B) and that attitudes were perceived as more favorable by girls than boys (A X C). The grade difference on the self-esteem, self-control, and total adequacy indices reflects the more positive scores at higher grade levels for both SEE and control pupils.

C. Academic aptitude and achievement (Grades 1-3). Because students in grades 1, 2, and 3 received a different academic aptitude test (Kuhlman-Anderson) from those in grades 4, 5, and 6 (Lorge-Thorndike), scores were analyzed separately for the two groups. The results for grades 1-3, shown in Table 15, indicated a significant difference in favor of the SEE students. That is, the adjusted mean scores showed a greater gain for the SEE students. Academic achievement tests were not administered to first graders. The analysis of covariance of second and third grade achievement scores, as shown in Table 16, indicated a significant gain in reading, but not arithmetic, for the SEE students. Another interesting finding is that boys in both SEE and control classrooms showed a significantly greater gain in arithmetic, as compared to girls.

D. Academic aptitude and achievement (Grades 4-6). Analysis of covariance of academic aptitude scores, summarized in Table 17, indicates no differences. The unadjusted mean IQ scores were above average for both SEE and control students. The results of a covariance analysis for reading and arithmetic achievement scores are shown in Table 18. There were no SEE/control or sex differences in reading, but SEE students showed more improvement in arithmetic scores. As expected, there were significant between-grade differences for both reading and arithmetic.

TABLE 14

Covariance Summary for Sentence Completion Scores, Grades Four - Six

Sources of Variance	d.f.	Teacher Attitude Mean Square	 F	Self-Esteem Mean Square	 F	Self-Control Mean Square	 F	Total Mean Square	 F
A. SEE/Control Schools	1	4.78	2.52	4.26		.38		11.21	
B. Grade	2	1.44		34.87	3.84*	27.62	3.37*	78.40	3.39*
C. Sex	1	.07		17.54	1.98	9.08	1.11	4.51	
A x B	2	11.17	5.88**	4.59		10.27	1.25	13.91	
A x C	1	7.64	4.02*	10.84	1.22	10.53	1.28	8.99	
B x C	2	3.68	1.94	3.35		1.79		19.82	
A x B x C	2	2.24	1.18	4.66		7.20		21.24	
Error	155	1.90		8.88		8.21		23.14	

* $p < .05$

** $p < .01$

TABLE 15

Covariance Summary for IQ Scores, Grades One - Three

Sources of Variance	d.f.	Mean Squares	F
A. SEE/Control Schools	1	551.88	6.02*
B. Grades	1	4.98	
C. Sex	1	17.94	
A x B	1	201.48	2.20
A x C	1	341.20	3.72
B x C	1	.01	
A x B x C	1	74.52	
Error	87	91.74	

*p <.05

TABLE 16

Covariance Summary for
Achievement Scores, Grades Two and Three

Reading

Sources of Variance	d.f.	Mean Squares	F
A. SEE/Control Schools	1	300.64	10.57**
B. Sex	1	.01	
A x B	1	86.38	3.04
Error	51	28.44	

**p <.01

Mathematics

Sources of Variance	d.f.	Mean Squares	F
A. SEE/Control Schools	1	1.13	
B. Sex	1	110.17	5.82*
A x B	1	70.35	3.19
Error	51	18.94	

* p <.05

TABLE 17

Covariance Summary for IQ Scores, Grades Four - Six

Sources of Variance	d.f.	Mean Squares	F
A. SEE/Control Schools	1	667.88	
B. Grade	3	269.86	
C. Sex	1	1463.59	1.08
A x B	3	1704.63	1.26
A x C	1	2240.06	1.66
B x C	3	1125.10	
A x B x C	3	987.42	
Error	207	1349.43	

TABLE 18

Covariance Summary for Achievement Scores, Grades Four - Six

		Reading		Mathematics		
Sources of Variance	d.f.	Mean Squares	F	Mean Squares	F	
A. SEE/Control Schools	1	18.84		292.34	4.97*	SEE >Control
B. Grade	3	673.96	7.84**	1355.61	23.04**	
C. Sex	1	6.13		175.40	2.98	
A x B	3	30.53		36.27		
A x C	1	227.98	2.65	154.54	2.63	
B x C	3	250.98	2.92*	49.21		
A x B x C	3	5.26		46.46		
Error	207	85.91		58.85		

* p <.05

** p <.01

Menlo Park. In line with administrative decisions, academic aptitude and achievement tests were administered in the fall and spring to selected grades in one experimental and one control school. Mean differences were generally in favor of the SEE classes, but the differences were generally small and not statistically significant. The analysis of covariance of aptitude scores for grades 2 and 3, shown in Table 19, indicate a significant treatment X sex interaction (A X B). That is, there were no differences between boys in the SEE and control classrooms, but the gain scores for the SEE girls were significantly higher. As shown in Table 20, aptitude scores for grades 4 and 6 did not differ. The analyses of covariance of achievement scores for selected grades, as shown in Table 21 and 22, indicate that the SEE and control classes differed significantly in reading in favor of the control classes. Mean differences in arithmetic in favor of the SEE classes failed to reach traditional significance levels. Analysis of variance of reading scores at the end of grade 1, as shown in Table 23, indicated no difference between the SEE and control classrooms. Examination of the unadjusted means showed that reading and arithmetic scores for both the experimental and control classrooms was above the national mean at each grade level.

The limited evaluation results for Menlo Park are mixed and do not lend themselves to extensive interpretation. Since no teacher-pupil interaction or pupil attitude measures were administered, it is not possible to draw any conclusions concerning possible SEE effects on non-academic areas of pupil growth and development.

Summary. Behavior measures administered in the fall and spring indicated striking changes in the classroom verbal behavior of the SEE pupils at the Meyerholz school. Compared with pupils in the control schools, SEE

TABLE 19

Covariance Summary for IQ Scores
Grades Two and Three

Sources of Variance	d.f.	Mean Squares	F
A. SEE/Control School	1	60.26	
B. Sex	1	52.47	
A x B	1	414.76	5.29*
Error	23	78.36	

*p <.05

TABLE 20

Covariance Summary for IQ Scores

Grades Four and Six

Sources of Variance	d.f.	Mean Squares	F
A. SEE/Control Schools	1	115.85	1.42
B. Grade	1	84.73	1.04
C. Sex	1	32.57	
A x B	1	13.89	
A x C	1	83.73	1.03
B x C	1	80.39	
A x B x C	1	29.27	
Error	47	81.63	

Grade Three

Sources of Variance	d.f.	Mean Squares	F
A. SEE/Control Schools	1	46.81	
B. Sex	1	13.08	
A x B	1	122.54	1.74
Error	23	70.27	

TABLE 21

Covariance Summary for Reading Scores
Grades Two, Three, Five and Six

Sources of Variance	d.f.	Mean Squares	F
A. SEE/Control School	1	957.48	9.26**
B. Grade	3	828.59	8.01**
C. Sex	1	16.68	
A x B	3	57.03	
A x C	1	24.93	
B x C	3	295.97	2.86
A x B x C	3	755.13	7.30**
Error	95	103.41	

**p <.01

TABLE 22

Covariance Summary for Arithmetic Scores
Grades Two, Three and Five

Sources of Variance	d.f.	Mean Squares	F
A. SEE/Control School	1	85.73	1.27
B. Grade	2	932.59	13.86**
C. Sex	1	13.19	
A x B	2	64.13	
A x C	1	31.76	
B x C	2	208.01	3.09
A x B x C	2	91.11	1.35
Error	71	67.29	

**p <.01

TABLE 23

Analysis of Variance Summary for Reading Scores

Grade One

Sources of Variance	d.f.	Mean Squares	F
A. SEE/Control School	1	110.45	2.25
B. Sex	1	18.05	
A x B	1	14.45	
Error	16	49.01	

pupils initiated more talk and were more likely to include feeling content in their statements. That these behaviors were significantly more frequent in the SEE classrooms clearly reflects the reported changes in teacher behavior. These results indicate that the SEE teachers were serving as effective models of the SEE processes. It would be interesting to know whether behavior changes were occurring generally among the students or were restricted to a few students in each classroom.

The behavior changes among SEE students were not generally reflected in attitude questionnaire, aptitude, and achievement scores. First grade boys in the SEE classrooms indicated a more positive attitude toward peers and the total classroom environment. Upper grade SEE students indicated less anxiety concerning classroom tests and evaluation and perceived teacher attitudes as more positive. SEE pupils registered significantly higher gains in aptitude and reading in grades 1 - 3 and they showed more gain in arithmetic in grades 4 - 6. It is possible that the rather small number of significant F-values could have occurred by chance alone, but it should be noted that all of the significant differences between Meyerholz and control pupils were in favor of the SEE classrooms.

PART III: BEHAVIORALLY HANDICAPPED

Method

Introduction. The SEE - AIR Services Agreement provided for the implementation and evaluation of adapted teaching-learning opportunities for small groups of Meyerholz pupils with perceptual and/or behavioral deficits. Since the proposed two sessions of learning opportunities were described in only general terms in the Services Agreement, the necessary planning was conducted in joint SEE - AIR staff meetings during the year.

In weekly meetings, the SEE - AIR staff met to review relevant professional literature and to monitor the progress of the group activities. These regular meetings facilitated the development of a conceptual framework within which new ideas could be generated and communicated. We reviewed a wide range of research before and during the formulation of the program for the behaviorally handicapped. Special attention was given to school mental health programs such as those at George Peabody College (Hobbs, 1967), the University of Michigan (Fox, Luszki, and Schmuck, 1967), and the University of Iowa (Ojeman, 1959). We also reviewed relevant research pertaining to perceptual training, small group process, and the application of behavior modification and social learning principles to the classroom. The staff meetings provided the opportunity to explore various techniques and to maintain an integration of ideas from several sources with the unique contributions of the SEE program. These sessions were often planned in conjunction with general planning and evaluation meetings.

The learning opportunities were conducted in small groups of 3-5 pupils for approximately 30 minutes. Each group had a leader and an observer from the SEE - AIR staff, who maintained extensive records of the content of the training sessions. Many of the sessions were videotaped for purposes of training supervision and demonstration.

The small group activities, conceptualized as an educational rather than a psychotherapeutic activity, focused on both competence and deficit of behaviors required for success in the school environment. The departure from the usual psychotherapeutic treatment model of the "mental illness" model reflected our preference for a social competence model. That is, children have a need to achieve competence through successful coping in the classroom and each pupil has areas of strength to be identified and extended through carefully planned group activities.

In the formulation of the program we identified two important objectives: (1) to maximize the involvement of teachers and (2) to avoid designation of participating children as "deviants" by the school staff or by their peers. The teachers gave excellent cooperation in our initial evaluation activities and were generally enthusiastic about the program. We attempted to build on these positive feelings by relating our activities to the continuing inservice training of teachers. This was accomplished by presentations and demonstrations of activities in the program for the behaviorally handicapped children to teachers via videotape and group discussions. The teachers received progress statements from the group leader for each participating pupil. Implementing the SEE processes in the small groups effectively complemented the efforts of teachers to implement these processes in the larger context of the classroom.

Two groups of training sessions were conducted. Selected students from grades 1-3 attended 16 training sessions in the fall. Selected students from grades 4-6 attended 16 training sessions in the spring. The decision to deal with younger and older pupils was based on the greater homogeneity of problems and procedures within groups.

Selection of pupils. Teachers recommended a pupil for participation by rating his school behavior on the A-M-L Scale (Beisser and Van Fleet, 1962), an 11 item, 5-point behavior rating scale developed for the early identification of students having difficulties in school adjustment. Teachers completed the A-M-L for selected pupils in grades 1, 2, and 3 approximately six weeks after the beginning of school; teachers in grades 4, 5, and 6 completed the A-M-L for selected pupils approximately six months after the beginning of school. As shown in Table 24, a total of 82 pupils were referred for participation in the program. The total number included more than twice as many boys than girls. At the lower grade levels, almost three times as many boys were referred. More students were referred at the upper grade levels than the lower grade levels.

Training activities (Grades 1, 2, and 3). Students in grades 1, 2, and 3 were placed in one of three training groups. Placement was based on information obtained in the measurement program indicated in Table 25. To obtain additional information concerning some students, a qualified school psychologist administered individual psychological evaluations employing such tests as the Wechsler Intelligence Scale for Children, the Illinois Test of Psycholinguistic Ability, Bender Gestalt, and other appropriate individually administered tests. All tests were administered and interpreted by qualified SEE - AIR personnel under the general supervision of Dr. W. Ray Rhine, a clinical psychologist and the Principal Investigator.

Information from the psychological evaluation was utilized in the placement of pupils in a training group and in the planning of appropriate activities. Children having apparent problems in perceptual-motor functioning were placed randomly into two types of group activity: (1) perceptual

TABLE 24

Pupils in Training Groups

Grades One - Six

Grade	Boys	Girls
1	8	1
2	9	2
3	7	5
	(24)	(8)
4	12	3
5	13	6
6	9	7
	(34)	(16)
Total	58	24

TABLE 25

Tests Administered to Selected Students

Grades One, Two and Three

Grade	AML	Winterhaven	Slingerland	Frostig	Laterality
1	X	X		X	X
2	X		X	X	X
3	X		X		X

training and (2) a combination of perceptual training and group interaction. Children giving no indication of perceptual-motor difficulties were placed in the group interaction. Our plan to assign some students to a control group was not implemented due to the smaller-than-expected number of referrals from teachers.

1. Perceptual training. Students participated in a variety of supervised perceptual-motor training procedures including: parquetry sets, Frostig figure-ground development, jig-saw puzzles, balance boards, walking beams, catching bean bags and balls, bouncing balls, Angels in the Snow crawling activities, tumbling, jumping, and hopping exercises, and exploratory movement. These activities were intended to teach figure-ground discrimination, consistency in eye, hand, and foot preference, patterning of body movement, right and left discrimination, basic play skills required for participation in playground activities, a consistent crawl pattern, discrimination of spatial relationships. The choice of these activities was dictated by research data, as well as the knowledge and experience of members of the SEE - AIR staff.

2. Small group interaction. Pupils exchanged views on a wide range of topics relating to peer interaction, teacher characteristics, schoolwork, and parent perceptions of their classroom performance. Pupils developed their own topics of interest. One specific technique was a series of projective-type pictures depicting children in various school-related activities. Pupils responded in terms of their own perceptions and experiences in the school environment. Group leaders structured the sessions by requesting that the children give responses to three general questions about the pictures: (1) What is happening here? (2) How do you feel about what is happening here? (3) Has anything like this ever happened to you? These discussions often became extremely animated and the pupils often did not wish to return to their classrooms. A record of pupil comments, including videotape, indicates the involvement in these group activities and the desire for more participation.

   An important objective of the interaction process was to encourage children to share ideas and feelings. The exploration of behavior appeared to be intrinsically interesting to even very young children. When a sufficient level of interest and rapport was established in the group, it was possible to move toward "behavior assignments." That is, pupils designated one or more members to engage in behaviors calculated to assist in the solution of a problem of common interest to the group. The members of the group assisted in the formulation of the behavior assignment and they followed with great interest the results of a pupil's attempt to experiment with his behavior in the problem situation. Thus, the group provided support and evaluation for the formulation and implementation of the behavior assignment. An attempt was made to help a child engage in a behavior which was likely to be successful and reinforced. The basic intent was to help the child understand that the consequences of his behavior could be under his control. It was an attempt to put behavior on a more rational basis and to provide incentives for the development of a causal approach to behavior. It was hoped that the child could be more effective in directing his thinking in problem solving.

When the child returned to the group, he discussed the results of the behavior in which he had engaged. Role playing was sometimes used to help the other members of the group get a feeling of actual participation in the group member's behavior. In these circumstances, it was possible to explore the pupil's thinking and feeling as he engaged in the behavior and perceived the results. To assist in antecedent-consequence thinking about behavior, the pupil considered alternative behaviors and their probable consequences. Teachers were informed of the group activities to prepare them to respond to the child's attempt to carry out his behavior assignment.

3. Perceptual training and group interaction. Students participated in a combination of perceptual training and group interaction.

Training activities (Grades 4, 5, and 6). A total of 50 students were referred by their teachers in February, 1968. Thirty-four pupils were assigned to eight experimental groups. Sixteen pupils were assigned to a comparison group and remained in their regular classroom routine. Students in the experimental groups met with their group leaders for 16 sessions of 25-30 minutes. The procedure in these groups was quite similar to the procedure used in the group interaction experience with grades 1, 2, and 3. That is, pupils were encouraged to share their concerns, perceptions of the school environment and their school experience, participate in the development of the group, and provide support for others to express their concerns and feelings. The use of behavior assignments, videotape, and consultation with teachers followed the pattern developed in the work with the younger pupils.

Evaluation (Grades 1, 2, and 3). To evaluate the effects of participation in the training sessions, the following measures were obtained in pre- and post-testing in October and January, respectively:

1. A-M-L Behavior Rating Scale. An 11 item, 5-point rating scale for recording teacher observation of the classroom behavior of a pupil. (Appendix B). The teacher indicated the frequency of a particular behavior by checking a 5-point rating scale ranging from "seldom or never" to "all of the time." The A-M-L Scale may be summarized as follows:

   A - aggressive-outgoing behavior (items 1, 2, 4, 7, 9)

   M - moody-introspective behavior (items 2, 4, 6, 8, 10)

   L - learning disability (item 11)

   Total (items 1 - 11)

2. Frostig Developmental Test of Visual Perception. Contains carefully graded tasks in these five areas of visual perception: eye-hand coordination (16 items), figure-ground discrimination (8 items), form constancy (8 items), position in space (8 items), and spatial relations (8 items).

   The instrument is widely used for predicting learning success in the primary grades. Several studies have reported relationships between low Frostig scores and learning disabilities. Strength and weakness in perceptual functioning can be evaluated and training procedures designed to correct the specific disabilities can be provided.

   Scoring is objective. Five subtest scores, a perceptual quotient, and a perceptual age can be derived. The perceptual quotient (PQ) shows the developmental level of the child in relation to his CA.

3. Hand dominance. Ss were required to indicate a hand preference for performing these four tasks: (1) picking up small objects, (2) eating, (3) throwing, (4) writing. Ss performed two trials on each of the four tasks and the hand used by the S for each activity was recorded on the total eight trials. Handedness was scored Right or Left if the same hand was used on seven or eight trials: Mixed if six or fewer trials were performed with one hand, the remainder with the other hand. In several studies (Harris, 1957; Zangwill, 1962), inconsistent hand preference has been related to reading disability.

Evaluation (Grades 4, 5, and 6). To evaluate the effects of participation in the training sessions the following measures were obtained in pre- and post-testing in March and May, respectively:

1. A-M-L Behavior Rating Scale.

2. Figure-Placement Test. A felt board figure placement test which purports to measure "emotional distance" between children and significant people in their environment. As compared to children normally adjusted in the classroom, children with "severe learning problems" placed human figures (mother-child, father-child, child-child) further apart than non-human figures (rectangles). (Weinstein, 1967).

   In this study, pupils placed in succession: (1) a pair of rectangles, and (2) two pairs of flannel figures (pupil-teacher and pupil-peer). It was expected that the behaviorally handicapped pupils would place human figures further apart than the rectangles and that they would place the pupil-teacher figures further apart than the pupil-peer figures.

   Using a free placement technique, the examiner asked the children to place the figures on the felt board "any way you like." Distance between figures was measured from midline to midline.

Results

Grades 1, 2, and 3. Pupils in the three training groups were evaluated on the four dimensions of the A-M-L (Aggressive, Moody, Learning Disability, and Total Score). Students in groups 2 and 3 were evaluated on two additional dimensions, the Perceptual Quotient of the Frostig and the stability of hand dominance in task performance. Group means were calculated and compared by the t-test for correlated means.

1. A-M-L Behavior Rating Scale. The results of the teacher pre- and post-ratings are shown in Table 26. Eleven of the twelve group mean scores were improved in the post-testing and one score remained the same. Five of the mean differences were significant beyond the .05 level. Significantly greater change in teacher perception of student behavior occurred for those students in groups 2 and 3.
2. Frostig Perceptual Quotient. The pre- and post-test mean scores are shown in Table 27. These results indicate that the groups were closely equated in their performance on the Frostig prior to their participation in the two training sessions. Both groups showed improvement in their PQ scores following training, but the training in group 2 was decidedly more effective in producing an increase in the mean Frostig PQ scores.
3. Stability of hand dominance. Pupils in both groups showed a significant increase in consistency of hand preference after participation in the training activities, but the pupils in group 2 displayed a greater degree of improvement. It appears that the greater amount of practice in improving consistency of hand preference in group 2 was particularly effective in increasing the stability of hand preference in task performance (see Table 28).

Grades 4, 5, and 6. All selected pupils were evaluated along the four dimensions of the A-M-L and the three dimensions of the Felt Board Placement Test. Group means were calculated and were compared by the t-test for correlated means.

1. A-M-L Behavior Rating Scale. The results of the teacher pre- and post-ratings are shown in Table 29. There was a mild tendency for the group means to show improvement on the post-test, but none of the mean differences approached statistical significance. Experimental and control groups were fairly well equated at the

TABLE 26

AML Mean Scores for Three Training Groups
Grades One, Two and Three

	Group Interaction (N=11)		Perceptual Training (N=10)		Perceptual Training and Group Interaction (N=11)	
	Pre	Post	Pre	Post	Pre	Post
A	14.91	13.55	12.86	9.29*	13.11	12.00
M	11.55	10.82	12.86	9.86*	12.25	8.62**
L	3.18	2.64	3.25	2.43	3.44	3.44
T	29.64	27.00	30.26	21.43**	29.13	23.88*

*p <.05

**p <.01

TABLE 27

Frostig (PQ) Mean Scores for Two Training Groups
Grades One, Two and Three

	Pre-test	Post-test	$\bar{D}$
Perceptual Training (N=10)	101.13	114.25	13.12**
Perceptual Training and Group Interaction (N=11)	98.63	102.13	3.50

**p <.01

TABLE 28

Laterality Mean Scores for Two Training Groups

Grades One, Two and Three

	Pre-test	Post-test	$\bar{D}$
Perceptual Training (N=10)	4.62	2.50	-2.13**
Perceptual Training and Group Interaction (N=11)	5.42	4.85	-0.571*

*p <.05

**p <.01

TABLE 29

AML Mean Scores for Experimental and Control Groups

Grades Four, Five and Six

	Experimental (N=34)		Control (N=16)	
	Pre-test	Post-test	Pre-test	Post-test
A	11.80	11.54	13.88	15.00
M	13.10	12.30	14.29	12.71
L	2.47	1.60	2.94	2.71
T	27.37	26.54	31.12	30.43

beginning of the training. It may be significant that the post-test A-M-L ratings were taken near the end of the school year. The cumulative effects of stresses over the school year may have served to cancel out effects of the training exercises. Also, teacher opinions may be less susceptible to change at the end of the year.

2. Figure Placement Test. The mean distance between figures in the Figure Placement Test are presented in Table 30. It had been predicted that human figures would be placed farther apart than the non-human figures (rectangles). This hypothesis was not confirmed. The students in both the experimental and control groups indicated the greatest emotional distance between the teacher and themselves and the least emotional distance between themselves and other pupils. The distance between the rectangles was intermediate between the two human figure placement tasks. On the average, pupils placed the figures of the "Teacher and You" almost twice as far apart as the "You and Others" figures. This suggests that distance in the pupil-teacher relationship may be a problem area for some pupils, especially those with learning problems. We do not have the data to compare these results with those of normal children who are doing well in their class work.

   For both the experimental and control groups, pre- and post-test differences were small and insignificant. According to the data presented in Table 31, however, the mean increase and decrease in the "Teacher and You" emotional distance scores was greater in the experimental groups. These results suggest two different responses to participation in the small group sessions. That is, participation had the effect of increasing emotional distance for some pupils and decreasing the emotional distance for other pupils. It would be interesting to know whether the increase or decrease in emotional distance scores was accompanied by different observable behavior in the classroom.

Summary. All behaviorally handicapped pupils were selected by classroom teachers. The small group activities were designed to develop pupil competence in tasks related to success in school. The perceptual training activities for selected pupils in grades one, two and three produced significant positive changes in teacher perception of pupils, perceptual functioning, and hand preference consistency in task performance. Interpretation of these results is limited by the lack of a control group, but the findings and the enthusiastic response by pupils and parents suggest that small group processes may be applicable to the needs of even very young school children.

TABLE 30

Mean Distance Between Felt Board Figures

Grades Four, Five and Six

	Experimental (N=34)		Control (N=16)	
	Pre-test	Post-test	Pre-test	Post-test
Rectangles	5.92	6.18	8.56	6.19
Teacher and You	8.78	9.19	9.22	7.75
You and Others	4.79	5.38	3.80	4.27

TABLE 31

Mean Increase and Decrease in Distance Between Felt Board Figures

Grades Four, Five and Six

	Experimental		Control	
	Increase	Decrease	Increase	Decrease
Rectangles	2.91	2.83	2.21	4.58
Teacher-Student	5.42	6.32	3.75	3.85
Student-Peer	4.69	3.21	3.98	1.56

Pupil participation in the small group activities for grades four, five, and six precipitated many interesting and intensive interaction sessions. Several students requested that the sessions be increased in frequency and length. The sessions clearly revealed the depth of pupil concern about relationships with teachers and other students. Their short-term participation in the group sessions failed to produce any apparent effects. The possible individual differences in response to participation in the group sessions and the effect of introducing this type of intervention early in the school year requires further study.

PART IV: PARENT TRAINING

During the past two years an extensive program of parent training has been an integral part of the SEE program in the Meyerholz and Hillview schools. Approximately 600 parents have enrolled in training sessions conducted by both the SEE staff and trained group leaders under the supervision of Dr. Tom Gordon. The training for parents, like the training for teachers and pupils, was derived from the SEE principles of effective interpersonal communication. The SEE program permitted simultaneous training for large numbers of parents, children, and teachers.

The first year of parent training was evaluated by data from parent self-reports as well as personal interviews with a selected sample of parents. Parent training continued during the second year on a voluntary basis. The classes grew larger and requests for parent training increased from Meyerholz and Hillview as well as from several adjacent schools and school districts. Parents who had completed one parent training course often requested attendance in succeeding courses. Several parents requested advanced training courses. In some instances, the parents paid for training courses which had not been budgeted in the SEE program. The evaluation data and the regular, enthusiastic participation by large numbers of parents clearly indicated the success of the training programs in winning parent acceptance and participation. School administrators and teachers agreed that the total impact of the training was to stimulate more positive parent attitudes toward the school and a widespread interest in improving parent-child communication and the general quality of family living.

Parents of Behaviorally Handicapped

Procedure. Concurrent with the training sessions for the behaviorally handicapped pupils, their parents were invited to attend a series of eight weekly meetings at Meyerholz school. The purpose of the parent training sessions was to enhance parent understanding and competence in improving the school performance of their children. Parents of children in grades 1, 2, and 3 attended the first training session in the fall and parents of children in grades 4, 5, and 6 attended the second training session in the spring.

Most of the parents of the behaviorally handicapped students had not indicated an interest in parent training activity. Therefore, it was necessary both to obtain their permission for their children to participate in the training program and to enlist their participation in the parent training program. The initial contact with the parents in both sessions was in the form of a letter from the Meyerholz principal, Mr. Dale Doty.

The general format was the same for both sessions. The principal introduced the training activities as a part of the school's attempt to provide quality education for all the children. The simultaneous training of teachers, children, and parents was discussed. There was extensive discussion of the selection of pupils and the nature of the training program. The use of training materials and videotape in the small group meetings was demonstrated. Parents were encouraged to ask questions and to share their feelings with the group. Since some parents appeared for the first time at each of the first three meetings, it was necessary to review important issues until the parents had assimilated and discussed the program to their satisfaction. Two particularly appropriate films, "From Sociable Six to Noisy Nine" and "Children's Emotions," were shown in the first two meetings of the first session. No films were shown in the second session.

The films and the discussion of the training program precipitated much parent concern about problem areas in child growth and development and in parent-child relationships. We assisted parents to identify and clarify these concerns in a supportive and helpful atmosphere. Problems discussed included the following:

1. How to get a child to come to school and dress himself.
2. How to praise, punish, discipline.
3. How to deal with lying, tattling.
4. Are the schools placing too much early pressure on pupils to prepare for college?
5. How to get children to help with household chores.
6. How to respond to failure in school.
7. How to respond to feelings of inadequacy as a parent.
8. How to express anger toward a child.
9. How to respond to child's expression of hostility and anger.
10. How to avoid showing favoritism to child.

Parents discussed the problem situation as it had been presented by a parent. Alternative coping strategies for dealing with the problem were discussed. Parents were encouraged to identify the behaviors which precipitated the problem situation and the reinforcements which sustained the undesirable behavior. Alternative sets of behaviors were formulated to deal with the problem. Specific behavior assignments were made and the results were discussed at the next meeting. It will be recognized that the approach was quite similar to the procedure employed with the small groups of students.

In some instances, the discussions between parents were quite frank. For example, the exchanges included observations that an aggressive child reflected the aggressive behavior valued by the parent, and that a parent was extremely rigorous, repressive, and demanding in dealing with the child in the home. In establishing a group atmosphere in which parents shared concerns and feelings, it was necessary to resist the tendency to convert the meetings into sensitivity training groups focusing on adult needs. Some of the parents had either heard of or participated in sensitivity training sessions. The ground rules of the meetings required that discussion of personal data must be related to the child's school performance. The meetings were intended to foster the personal growth and development of the parent rather than to teach a set of rules or techniques. Techniques, such as the changes in verbal behavior recommended in Ginott's best-seller _Between Parent and Child_, were always discussed within the framework of individual differences in growth and development.

The goals of the training sessions were the following:

1. Help parents understand the nature of the SEE training program for teachers and pupils.
2. Help parents understand the relevance of the SEE principles and techniques to relationship with their children.
3. Help parents understand how their own behavior was related to the child's behavior.
4. Help parents understand a child's view of the world, his feelings, and his perception of himself and others.
5. Help parents utilize the group resources in establishing a more satisfactory relationship with their children.

Attendance. Parent attendance in the eight meetings of the two training sessions is shown in Table 32. Approximately 80% of the invited families were represented in the first two meetings. Most families were represented by either the father or the mother; a few families were represented by both parents. In both sessions, about 40-50% of the invited parents attended on a regular basis.

TABLE 32

Attendance in Parent Training Sessions

Sessions	Meetings 1	2	3	4	5	6	7	8
1	27	18	16	20	22	20	21	19
2	20	24	19	17	20	17	21	20

There was a wide range of responses to the proposed training. Some parents had attended the parent training courses and they were delighted that further training would be available for their children and for them. A few parents were hostile toward the intervention effort and indicated that they would not attend the meetings. Generally, parents expressed appreciation for the school's interest in helping their children.

Evaluation. There were obstacles to implementing the parent training as it had been outlined in the Services Agreement. The Services Agreement plan had anticipated a high degree of cooperation and participation by a large percentage of both parents in the training program. Some parents were interested in participating in the training sessions, but it was impossible for both father and mother to attend the sessions due to difficulties in obtaining baby sitters, prior committments to work, night classes, meetings, etc. Some parents indicated that they would be unable to return for additional training sessions. Several parents stated that they would attend on an irregular basis.

Early in the first session, parents completed two parent attitude survey scales dealing with their attitudes toward family life, child-rearing, parent-child relationships (Appendix), and the results are shown in Table 33. Mothers and fathers were in close agreement in their responses to twenty-five (83%) of the thirty items. As compared to mothers, fathers agreed more frequently on the following items: "Children should be seen and not heard (I - 7), A child should always accept the decision of his parents (I - 11), If rules are not closely enforced children will misbehave and get into trouble (II - 7), A child should never keep a secret from his parents (II - 10), and If children are quiet for a while you should immediately find out why (II - 14)."

It would have been interesting to know whether fathers and mothers

TABLE 33

Comparison of Mother and Father Responses on Parent Attitude Scales I and II

I

		Mothers (N=14)	Fathers (N=12)
1.	True	86%	75%
2.	False	100%	75%
3.	True	100%	75%
4.	True	93%	75%
5.	False	100%	92%
6.	True	86%	83%
7.	False	71%	42%
8.	False	100%	83%
9.	False	93%	83%
10.	False	86%	75%
11.	True	57%	75%
12.	True	100%	92%
13.	False	79%	83%
14.	True	100%	83%
15.	False	86%	92%

II

		Mothers (N=13)	Fathers (N=7)
1.	False	61%	71%
2.	False	69%	57%
3.	False	69%	57%
4.	True	100%	100%
5.	True	100%	100%
6.	True	77%	86%
7.	False-M	54%	
	True-F		71%
8.	False	92%	86%
9.	False	85%	86%
10.	False-M	85%	
	True-F		57%
11.	False	69%	71%
12.	False	61%	71%
13.	False	77%	71%
14.	False-M	69%	
	True-F		57%
15.	False	69%	71%

reached a higher level of agreement on these five items following participation in the training sessions. Also, it would be interesting to know whether the responses of parents in the training sessions differed from the responses of parents whose children were making normal progress in school. Unfortunately, a few parents objected to answering the attitude survey items, and it was decided that further evaluation should be limited to self-reports and anecdotal records. Encouraging parent participation in the sessions seemed more important than pursuing the original evaluation plan.

Parents reported specific incidents indicating how their participation in the training influenced their behavior in interaction with their child. The following three reports are representative of several statements from parents:

> 1. "One thing I have been more aware of is the way I praise. I have always said something like, 'Well, bless your little heart' or 'You're a pretty good kid'. But the other day when my son did the dishes without being asked, I tried to be more specific and said, 'It is so nice to come into the kitchen and find all the dishes sparking clean and the kitchen neat. Thank you for a good job'. I was really surprised when he came over and hugged me and said, 'You're welcome, Mom'. I guess I have always just expected the children to do their share".
>
> 2. "I guess I am making some progress. At least I am more aware. The other day I was standing close to my older son and as I turned away from him, I accidentally struck him on the arm and he hit me back. Instead of striking him as I might have earlier, I really wondered what caused his hostility and I did nothing, which probably was the best thing I could have done".
>
> 3. "The other afternoon my soon seemed very angry and depressed so I tried to listen reflectively. 'You seem pretty angry and upset about something', I said. 'Boy, I am. I always get chosen on the poorest baseball team and I'm usually one of the last chosen. Then our teacher went and played with the best team, and I don't think that is fair', he said. I think it helped to let him talk about his feelings without my judging the situation".

CONCLUSIONS AND RECOMMENDATIONS

The Self Enhancing Education program is noteworthy in that it has formulated a coordinated program for teaching communication skills to pupils, teachers, and parents. It appears that serious attempts to effect change in the school environment will require coordinated training rather than programs which focus on pupils, teachers, or parents separately. Implemented under a Title III grant, the SEE innovative program employed techniques which were primarily derived from the professional school experience of the SEE staff.

Innovative programs such as SEE are sometimes criticized because they are presumed to distract from the academic progress of the pupils. The evidence of this evaluation clearly demonstrates that it is possible to effect significant behavioral change in teachers and pupils without reducing the level of academic performance. In fact, where differences in the rate of growth of academic aptitude and achievement occurred, they were usually in favor of the SEE pupils. An effective training program for interpersonal competence should increase the rate of acquisition and integration of knowledge.

It must be expected that change-oriented research will produce a certain amount of stress in the school environment. The change process requires new perceptions of one's self and others, a new look at the role of status divisions, and a confrontation of the obstacles to clear and congruent communication. In short, planned change in an educational environment requires change in the individuals who comprise that environment. These persons may differ greatly in their openness to change and in their resources for accomplishing and integrating change.

Effective leadership of change-oriented research will seek to provide opportunities for utilizing stress in a constructive process of conflict resolution, problem solving, and growth. Learning opportunities must be carefully selected to be appropriate to the current level of development and the capacity for future growth. The challenge that confronts change-oriented research is to contribute to the effectiveness of the school environment in accomplishing the task of education.

Implemented in the on-going process of education, innovative programs such as SEE require research skills and attitudes not required in the more traditional laboratory studies. The investigator must be responsive to significant community and school norms, established channels of communication, and the consensus concerning the goals of education. Innovative programs must enlist the interest, cooperation, and participation of persons to be affected by the change process. Such an approach contributes to an atmosphere in which individual perceptions and concerns can enter openly and constructively in the change process.

Attempts to implement the SEE techniques should be preceded by adequate preparation of the school and community millieu. It should be remembered that the current effort was the culmination of several years of work involving many people. Understanding and acceptance of the SEE principles by the school administrator, teachers, and parents creates an atmosphere which facilitates a successful effort.

Recommendations. This study has provoked many additional questions. Extension of the present research might proceed along the following lines:

1. Implementation of the SEE techniques in a small number of classrooms to permit closer scrutiny of the SEE processes and effects on pupils, teachers, and parents.

2. Inclusion of evaluation personnel and information early in the formulation of the project.

3. Continued effort to develop evaluation techniques for the SEE program. A greater utilization of behavioral observation should be considered. In addition, the use of unobtrusive measures should be investigated.

4. A more detailed survey of the literature, particularly experimental literature dealing with child development and group process, should be considered.

5. Study of the relevance of the SEE processes to pupils at the secondary level. There may also be some interest in exploring the relevance of SEE to exceptional children, members of minority groups, and behaviorally handicapped pupils.

6. It would be interesting to perform a follow-up study on the teachers and pupils in the present study to determine whether the observed behavioral changes were sustained after a period of a few months or a year.

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APPENDIX A

Biographical Sketches of AIR Staff

BIOGRAPHICAL SKETCHES
OF
AIR STAFF

W. Ray Rhine, PhD

W. Ray Rhine holds master's degrees in psychology and history from Southern Illinois University. He received his PhD in clinical and developmental psychology from the University of Texas in 1965. After serving one year as an Assistant Professor in the Department of Educational Pscychology at the University of Texas, he was appointed a U.S.O.E. post-doctoral research fellow at Stanford University in 1966-67. His research interests include school mental health, ordinal position effects, and developmental processes. His previous work experience includes five years as a school psychologist and as a Director of School Psychological Services in Illinois. He has also served as a Field Assessment Officer on Peace Corps training projects for India and Latin America. He is a member of the American Psychological Association. His paper on ordinal position effects on social conformity was recently published in the September, 1968, issue of *Child Development*.

Eleanor L. Norris, PhD

Eleanor L. Norris holds an AB degree from San Jose State College and a master's degree in journalism from the University of California at Berkeley. She received a PhD in social psychology from the University of Wisconsin in 1964. From 1961 to 1965 she was a Research Assistant and Research Associate at the Mass Communications Research Center, University of Wisconsin. She was involved in on-going research in the application of principles of social psychology to problems of attitude change. Since 1965, she has been a Research Scientist at AIR in Palo Alto. She has participated in a study of vocational needs in a Northern California county, and she has conducted attitude change research under a U.S.O.E. grant. She has recently completed an evaluation of the effectiveness of teaching principles of positive mental health to mothers of 6- and 7-year-old boys. She has also directed the evaluation of a project designed to improve children's self-concept. She is a member of the American Psychological Association and the Association for Education in Journalism.

Carolyn Thompson

Carolyn Thompson graduated cum laude with a BA in psychology from Ohio State University in 1964. In 1966, she received an MA in linguistics from OSU. Her thesis research was a study of the effects of aphasia on language development. This work was carried out at the Columbus State School and the Ohio State Rehabilitation Clinic, both in Columbus, Ohio. During 1966-1967, she worked on the development of a first grade language arts and reading curriculum for AIR Project PLAN, which is emphasizing individualizing instruction and the use of computer assisted instruction.

APPENDIX B

1. Outline of Interaction Analysis
2. Test Anxiety Scale
3. Our Classroom
4. Faces Test - Grade One
5. Faces Test - Grade Two
6. My Teacher
7. This Is The Way I Am
8. Sentence Completion Test
9. A-M-L Behavior Rating Scale

OUTLINE OF INTERACTION ANALYSIS

TEACHER TALK--INDIRECT INFLUENCE

1. Accepts feelings: accepts and clarifies the feelings of the pupils in a nonthreatening manner. Feelings may be positive or negative. Predicting or recalling feelings are included.

2. Praises or encourages: praises or encourages pupil action or behavior. Jokes that release tension, but not at the expense of another individual, as well as nodding head or saying "um-hm" or "go on" are included.

3. Accepts or uses ideas of pupil: clarifies or develops ideas suggested by a pupil. As the teacher brings more of his own ideas into play, shift to Category 5.

4. Asks questions: asks a question about content or procedure with the intent that a pupil answer.

TEACHER TALK--DIRECT INFLUENCE

5. Lecturing: gives facts or opinions about content or procedures; expresses his own ideas; asks rhetorical questions.

6. Giving directions: directs, commands, or orders with the intent that pupils comply.

7. Criticizing or justifying authority: makes statements intended to change pupil behavior from nonacceptable to acceptable pattern; criticizes or rebukes; states why he is doing what he is doing; refers extensively to himself.

STUDENT TALK

8. Response: pupil makes a predictable response to teacher. Teacher initiates the contact or solicits pupil's statement and sets limits to what the pupil says. Shift from 8 to 9 as pupil introduces own ideas.

9. Initiation: a pupil initiates communication with the teacher including unpredictable statements in response to teacher.

UNDIRECTED ACTIVITY

10. Silence or confusion: pauses, short periods of silence, and periods of confusion in which communication cannot be understood by the observer.

SEE
I.D. #__________

TASC

INSTRUCTIONS: I'm going to be asking you some questions now -- questions different from the usual school questions, because these are about how you feel, and therefore have no right or wrong answers. Listen to each question carefully, think about it for a moment, and then answer it "yes" or "no." Remember, your answer depends on how you think and feel. If you don't understand a question, ask me about it. Here is the first question:

1. YES NO Do you worry when the teacher says that she is going to find out how much you know?
2. YES NO Do you worry about being promoted, that is, passing from the ___ to the ___ grade at the end of the year?
3. YES NO When the teacher asks you to get up in front of the class and read aloud, are you afraid that you are going to make some bad mistakes?
4. YES NO When the teacher says that she is going to call upon some boys and girls in the class to do arithmetic problems, do you hope that she will call upon someone else and not on you?
5. YES NO Do you sometimes dream at night that you are in school and cannot answer the teacher's questions?
6. YES NO When the teacher says that she is going to find out how much you have learned, does your heart begin to beat faster?
7. YES NO When the teacher is teaching you about arithmetic, do you feel that other children in the class understand her better than you?
8. YES NO When you are in bed at night, do you sometimes worry about how you are going to do in class the next day?
9. YES NO When the teacher asks you to write on the blackboard in front of the class, does the hand you write with sometimes shake a little?
10. YES NO When the teacher is teaching you about reading, do you feel that other children in the class understand her better than you?
11. YES NO Do you think you worry more about school than other children?
12. YES NO When you are at home and you are thinking about your arithmetic lesson for the next day, do you become afraid that you will get the answers wrong when the teacher calls upon you?
13. YES NO If you are sick and miss school, do you worry that you will do more poorly in your schoolwork than other children when you return to school?
14. YES NO Do you sometimes dream at night that other boys and girls in your class can do things you cannot do?
15. YES NO When you are home and you are thinking about your reading lesson for the next day, do you worry that you will do poorly on it?

SEE
I. D. #__________

PAGE TWO -- TASC

16. YES NO When the teacher says that she is going to find out how much you have learned, do you get a funny feeling in your stomach?

17. YES NO If you did very poorly when the teacher called on you, would you probably feel like crying even though you would not cry?

18. YES NO Do you sometimes dream at night that the teacher is angry because you do not know your lessons?

In the following questions the word "test" is used. What I mean by "test" is any time the teacher asks you to do something to find out how much you know or how much you have learned. It could be by your writing on paper, or by your speaking aloud, or by your writing on the blackboard. Do you understand what I mean by "test" -- it is any time the teacher asks you to do something to find out how much you know.

19. YES NO Are you afraid of school tests?

20. YES NO Do you worry a lot before you take a test?

21. YES NO Do you worry a lot while you are taking a test?

22. YES NO After you have taken a test do you worry about how well you did on the test?

23. YES NO Do you sometimes dream at night that you did poorly on a test you had in school that day?

24. YES NO When you are taking a test, does the hand you write with shake a little?

25. YES NO When the teacher says that she is going to give the class a test, do you become afraid that you will do poorly?

26. YES NO When you are taking a hard test, do you forget some things you knew very well before you started taking the test?

27. YES NO Do you wish a lot of time that you didn't worry so much about tests?

28. YES NO When the teacher says that she is going to give the class a test, do you get a nervous or funny feeling?

29. YES NO While you are taking a test do you usually think you are doing poorly?

30. YES NO While you are on your way to school, do you sometimes worry that the teacher may give the class a test?

OUR CLASSROOM

Directions:

In this set of questions we are interested in finding out how you think the students in this class behave. For example, if the statement were "Comes late to class," and you thought that the students in your class often came late, you would answer like this:

	Always	Almost Always	Often	Only Sometimes	Never or Almost Never
Come late to class	___	___	X	___	___

Here is another example. If the statement were "Are well-mannered," and you thought the students in your class only sometimes were well-mannered, you would answer like this:

	Always	Almost Always	Often	Only Sometimes	Never or Almost Never
Are well-mannered	___	___	___	X	___

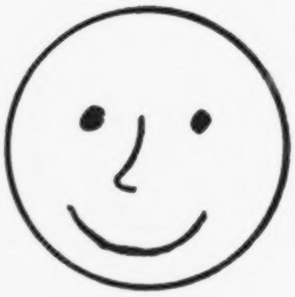
On the next page you will find statements like the sample ones above. You are to check the box which tells how you think the students in this class behave.

SEE
I.D.#_______

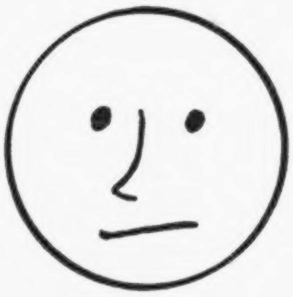
OUR CLASSROOM

	Always	Almost Always	Often	Only Sometimes	Never or Almost Never
1. All take part in classroom discussions.					
2. Help one another with their schoolwork.					
3. Behave themselves even when the teacher leaves the room.					
4. Ask the teacher for help.					
5. Laugh when someone misbehaves.					
6. Like doing schoolwork.					
7. Like each other.					
8. Follow the teacher's directions.					
9. Work well with one another.					
10. Laugh when someone makes a mistake.					
11. Like the teacher.					
12. Tell the teacher how they feel.					
13. Get into fights.					

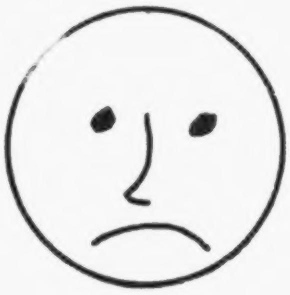
FACES TEST - GRADE ONE



Very
nice



So-
so



Not
nice

Practice Questions

1. How do you feel when you eat ice cream?
2. How do you feel when you eat spinach?
3. How do you feel when you get a present?
4. How do you feel if you fall down on the playground?

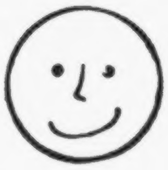
Test Questions

1. How did you feel when you thought about coming to school this morning?
2. How do you feel about the boys and girls in this class?
3. How do you feel when you are in school?
4. How do you feel when the teacher helps you with your school work?
5. How do you feel about learning out of books?

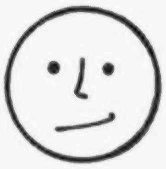
6. How does the teacher feel about the things you do in this class?
7. How does the teacher feel about the boys and girls in this class?

8. How do the boys and girls in this class feel about you?
9. How do the boys and girls in this class feel about the teacher?

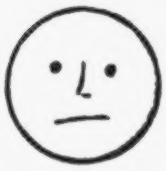
FACES TEST - GRADE TWO



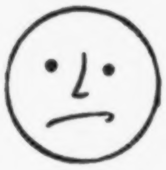
Very
nice



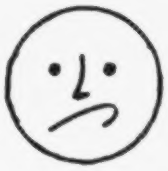
Nice



So-so



Not so
nice



Not nice
at all

Practice Questions

1. How do you feel when you eat ice cream?
2. How do you feel when you eat spinach?
3. How do you feel when you get a present?
4. How do you feel if you fall down on the playground?

Test Questions

1. How did you feel when you thought about coming to school this morning?
2. How do you feel about the boys and girls in this class?
3. How do you feel when you are in school?
4. How do you feel when the teacher helps you with your school work?
5. How do you feel about learning out of books?

6. How does the teacher feel about the things you do in this class?
7. How does the teacher feel about the boys and girls in this class?

8. How do the boys and girls in this class feel about you?
9. How do the boys and girls in this class feel about the teacher?

SEE
I.D. #______

MY TEACHER

Pretend that you could have your teacher change in some way. For each number, check the box that best tells how you would like your teacher to act in this class. There are no right or wrong answers.

	Much more than he does now	A little more than he does now	The same as he does now	A little less than he does now	Much less than he does now
1. Help with work					
2. Yell at us					
3. Make sure work is done					
4. Ask us to decide about how we will work					
5. Smile and laugh					
6. Make us behave					
7. Trust us on our own					
8. Make us work hard					
9. Show that he understands how we feel					

SEE
I.D.#______

Each of us needs to know about what we are like. This form is to help you describe yourself. There are no right or wrong answers; each person may have different ideas. Answer these according to your feelings. It is important for you to give your own honest answers.

Think carefully and check the answer that tells if you are like the word says nearly always, about half the time, or just now and then.

THIS IS THE WAY I AM

	nearly always	about half the time	just now and then
Friendly	______	______	______
Honest	______	______	______
Brave	______	______	______
Fair	______	______	______
Mean	______	______	______
Lazy	______	______	______
Smart	______	______	______
Clean	______	______	______
Selfish	______	______	______
Helpful	______	______	______
Good	______	______	______
A good sport	______	______	______
Dependable	______	______	______
Bashful	______	______	______
Happy	______	______	______
Popular	______	______	______

SEE
I. D. #__________

SENTENCE COMPLETION TEST

1. I am best when______________________________

2. My schoolwork______________________________

3. Many times I think I am______________________________

4. The thing I like best about this class is______________________________

5. If someone makes fun of me, I______________________________

6. I learn best when______________________________

7. When I grow up, I want to be______________________________

8. My teacher thinks I am______________________________

9. I get mad when______________________________

10. I often wish______________________________

11. I get in trouble when______________________________

12. I am happiest when______________________________

13. When I look at other boys and girls and then look at myself, I feel______________________________

14. To keep from getting into a fight, you must______________________________

15. If I don't do well in school______________________________

16. Most of all I want to______________________________

SEE
I. D. #__________

17. To get along well with other kids, you have to______________________________

____

18. When I look in the mirror, I feel____

____

19. The worst thing about this class is______________________________________

____

20. Making friends is hard if____

____

21. If I were the teacher of this class_______________________________________

____

Pupil ____________________
Birth Date________Sex _______
Date of Rating _____________

District ______________
School _______________
Grade ________________
Teacher ______________

A-M-L BEHAVIOR RATING SCALE

PLEASE RATE THIS PUPILS'S BEHAVIOR AS YOU HAVE OBSERVED AND EXPERIENCED IT

This Pupil --			Seldom or Never (1)	Not Very Often (2)	Often (3)	Most of the Time (4)	All of the Time (5)	
(A)	1.	Gets into fights or quarrels with other pupils	____	____	____	____	____	1.
(M)	2.	Has to be coaxed or forced to work or play with other pupils	____	____	____	____	____	2.
(A)	3.	Is very restless	____	____	____	____	____	3.
(M)	4.	Is unhappy or depressed	____	____	____	____	____	4.
(A)	5.	Enjoys disrupting class discipline	____	____	____	____	____	5.
(M)	6.	Becomes sick when faced with a difficult school problem or situation	____	____	____	____	____	6.
(A)	7.	Is very obstinate	____	____	____	____	____	7.
(M)	8.	Is overly sensitive to criticism	____	____	____	____	____	8.
(A)	9.	Is very impulsive	____	____	____	____	____	9.
(M)	10.	Can be very moody	____	____	____	____	____	10.
(L)	11.	Has difficulty learning	____	____	____	____	____	11.

A Score ____
M Score ____
L Score ____

Total ______

APPENDIX C

1. Parent-Attitude Survey No. 1
2. Parent-Attitude Survey No. 2

Parent-Attitude Survey No. 1

1. ____ Family life would be happier if parents made children feel they were free to say what they think about anything.

2. ____ Talking with a child about his fears most often makes the fear look more important than it is.

3. ____ A child's ideas should be seriously considered in making family decisions.

4. ____ Children should have a share in making family decisions just as the grownups do.

5. ____ If you let children talk about their troubles they end up complaining even more.

6. ____ Children shouldn't be asked to do all the compromising without a chance to express their side of things.

7. ____ There's a lot of truth in the saying, "Children should be seen and not heard."

8. ____ Family conferences which include the children don't usually accomplish much.

9. ____ Most children's fears are so unreasonable it only makes things worse to let the child talk about them.

10. ____ The trouble with trying to understand children's problems is they usually just make up a lot of stories to keep you interested.

11. ____ A child should always accept the decision of his parents.

12. ____ If a parent sees that a child is right and the parent is wrong, they should admit it and try to do something about it.

13. ____ Children don't try to understand their parents.

14. ____ A child has a right to his own point of view and ought to be allowed to express it, just as parents express theirs.

15. ____ Most of the time giving advice to children is a waste of time because they either don't take it or don't need it.

Parent-Attitude Survey No. 2

1. ____ Children who are not watched will get in trouble.

2. ____ Children must be told exactly what to do and how to do it or they will make mistakes.

3. ____ Children have no right to keep anything from their parents.

4. ____ Children have a right to activities which do not include their parents.

5. ____ A child should be allowed to try out what it can do at times without the parents watching.

6. ____ More parents should make it their job to know everything their child is doing.

7. ____ If rules are not closely enforced children will misbehave and get into trouble.

8. ____ It is hard to let children go and visit people because they might misbehave when parents aren't around.

9. ____ It is hard to know when to let boys and girls play together when they can't be seen.

10. ____ A child should never keep a secret from his parents.

11. ____ Parents should make it their business to know everything their children are thinking.

12. ____ An alert parent should try to learn all his child's thoughts.

13. ____ A mother has a right to know everything going on in her child's life because her child is part of her.

14. ____ If children are quiet for a while you should immediately find out why.

15. ____ It's a parent's duty to make sure he knows a child's innermost thoughts.